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DISEASES OF WOMEN AND CHILDREN

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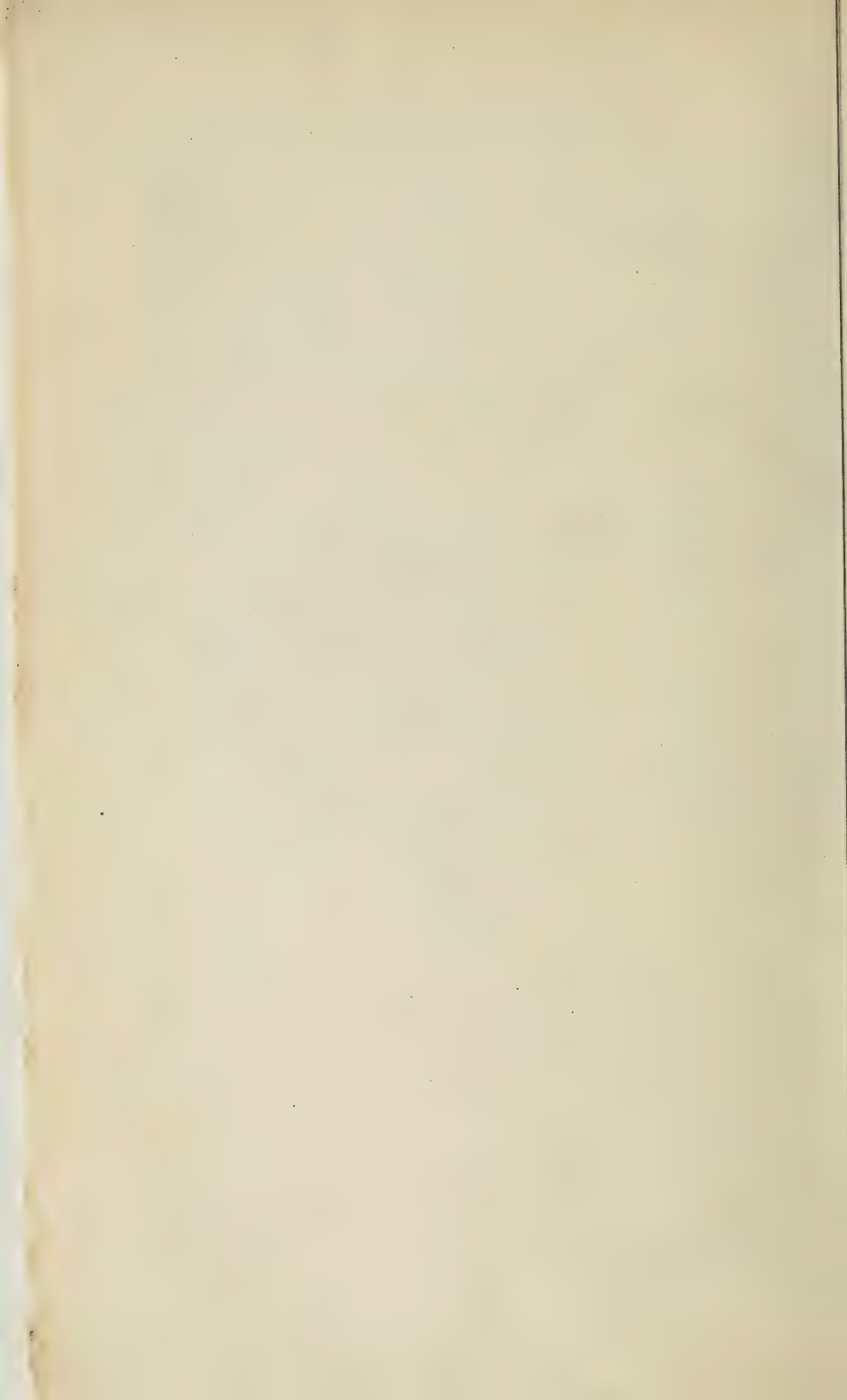
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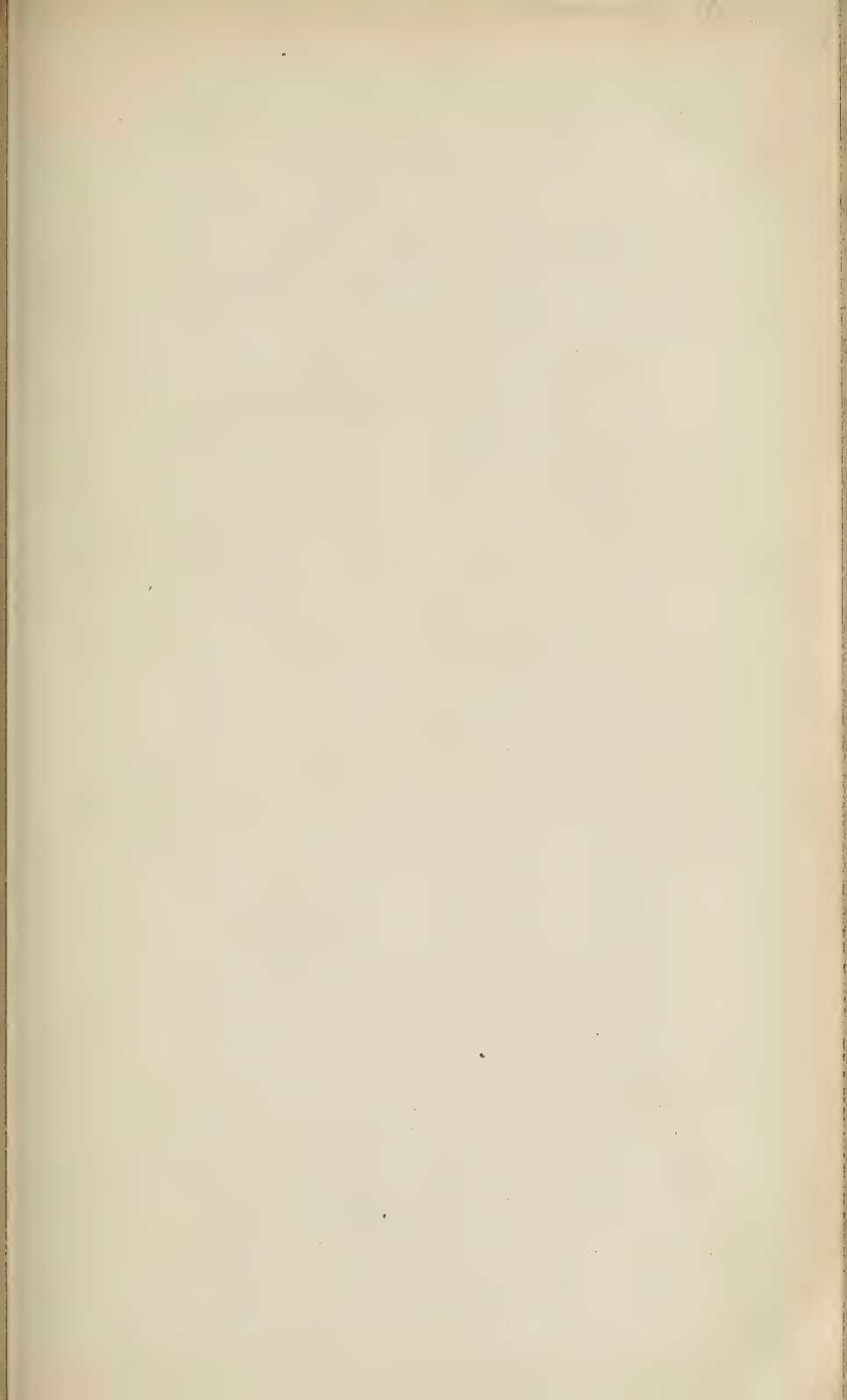
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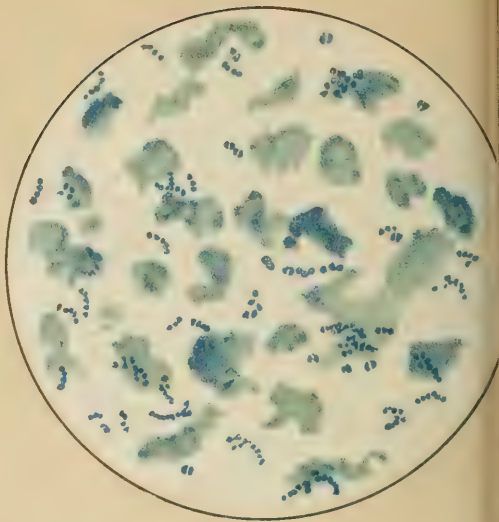




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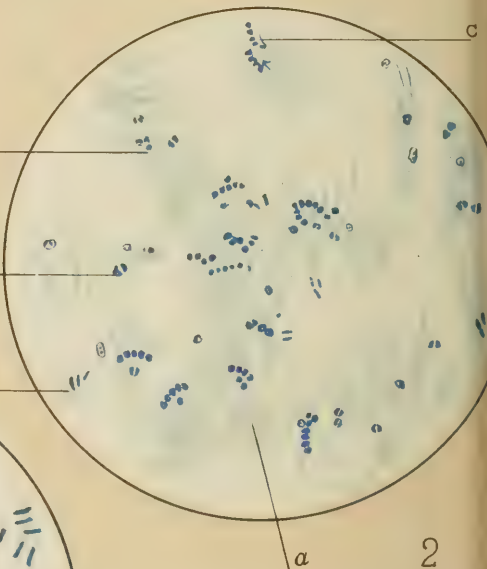


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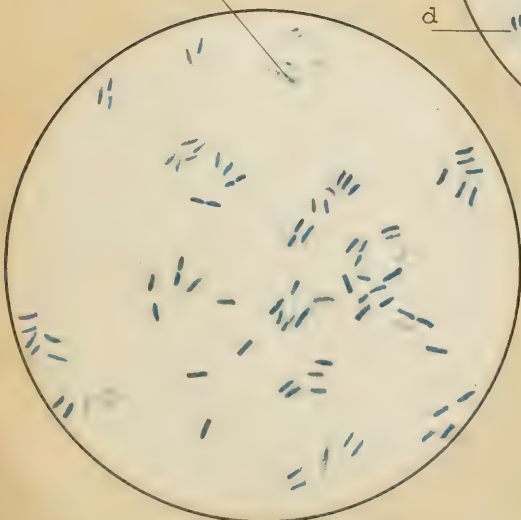
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NOEGGERATH - A PUERPERAL FEVER MICROBE.

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ORIGINAL COMMUNICATIONS.

THE HYGIENE OF PREGNANCY.

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IN a recent contribution,¹ I expressed the opinion that the natural laws governing the child-bearing life of woman should constitute safer guides for the sanitation of pregnancy than the artificial methods which necessity and experience have invoked. I did not, however, mean to undervalue the expedients and procedures which medical skill and science offer to prevent, mitigate, and cure the diseases of pregnancy. Whilst I maintain that these laws should constitute the fundamental basis of any code of hygiene that will attain the highest aim in the prevention of the diseases of pregnancy; reduce the mortality of child-bearing to its minimum; and promote the longevity of post-cessation life, I am compelled to admit the impossibility of their general enforcement. The duty, then, devolves upon the profession to devise other methods of conservation of the lives of pregnant women which, if not the best, will secure the best results human skill can reach.

¹ Gynecological Transactions, Vol. X.

For convenience, I limit the hygiene of pregnancy to the preservation of the health of woman during those periods of her life beginning with conception and terminating with the commencement of labor. This is an arbitrary limitation, for it cannot be technically asserted that pregnancy is concluded until the womb is completely evacuated of fetus and secundines. It excludes also the diseases of intrauterine life. The preservation of the health of the mother so constantly and directly refers to the health and life of the fetus that it must necessarily follow that the hygiene of pregnancy will comprehend, to a certain extent, the hygiene of the fetus; but only so far does it relate to the diseases of intrauterine life.

The changes, consequent upon pregnancy, which take place in the general organism, glandular system, and generative organs are physiological. Pregnancy is not a disease, yet the laws of diagnosis have, as yet, failed to define the limit where the physiological ceases and the pathological begins. The structural changes and formative activity establish conditions susceptible of easy, and sometimes rapid and insidious transformation into morbid processes. They invite and present the opportunity for the detrimental influence of trivial and extraneous agencies. It is not, therefore, surprising that the acquired causes of the diseases of pregnancy should be numerous and multifarious.

The virgin uterus measures but sixteen square inches in superficial area, the pregnant womb, at term, three hundred and forty. The textural changes which take place, involve every constituent tissue of the organ. The constantly increasing superficial area, weight, and dimensions of the pregnant womb take place in a cavity supposed in a normal condition to be always full. This cavity is inclosed, for the greater part, with walls possessing great expansile and elastic properties; nevertheless, especially in primiparæ, the mechanical disturbances of its contents are manifold and, oftentimes, serious. The cavity is filled to repletion and its walls stretched to their utmost tension. The neighboring viscera are displaced and compressed. The movements of respiration are interrupted. The thorax is diminished in depth and increased in breadth. Vital capacity is lessened. The portal circulation is disturbed. The arterial and venous blood currents in the vessels in the abdominal cavity and lower

extremities are obstructed; as a consequence there is "superior arterial hyperemia and inferior venous hyperemia (Barnes)." Thus local congestions may be determined. The complex processes of digestion, nutrition, and elimination, in some one or more respects, may be impeded, impaired or perverted. The peristaltic movements of the intestinal tract are so constantly lessened with the increasing volume of the uterus that constipation, more especially during the later months of pregnancy, is a common and troublesome complication. In consequence of the diminished capacity of the bladder, micturition is more frequent and annoying. These disturbances of the functions of the organs and anatomical relations of the parts, caused by the presence and continuous growth of a vascular and highly organized tumor in a closed cavity, lined by an acutely sensitive membrane, stretched in various parts to its utmost tension, would seem to present a variety of conditions favorable to the development of disease. This danger is vastly augmented by the constantly increasing afflux of blood to, and the exaltation of nutritive and formative activities in, the uterus and genitalia.

The changes which take place in the constitution of the blood approach, even more closely, pathological conditions. The red corpuscles, albumin, iron, and salts are diminished. The white corpuscles, fibrin, and water are increased. With the increase in volume there is increasing impoverishment of the blood and loss of the carriers of oxygen. Consumption and waste, and elimination of carbonic acid and urea are augmented with diminished ingestion and assimilation of food. Cell nutrition and metamorphosis are consequently deranged. With the increase of water and fibrin, and loss of albumin, a condition of serous plethora and hyperinosis is established, which favors transudation, coagulation, and thrombosis.

Not less important are the dynamic changes in the circulation. With hypertrophy of the heart, there is dilatation of its cavities and increased arterial tension. It may be that these dynamic changes are compensatory and not resultant. For they coexist with lessened vital capacity, diminished oxygenation, increased blood mass, blood degradation, and hyperinosis with increased liability to coagulation.

These blood and circulatory changes begin and progress consentaneously with the nutritive and developmental pro-

cesses taking place in the generative organs. With the rapid growth and increasing demand of the new being for sustenance, there is progressive waste with lessened food supply. With the augmentation of blood mass there is anemia, diminished oxygenation, and increased propulsive power of the circulatory apparatus.

The changes which take place in the glandular system are equally interesting and no less remarkable. Probably all the glands undergo some change, due, perhaps, to the increased work imposed upon them. The thyroid gland and spleen are usually enlarged, the latter sometimes very much so. The thyroid enlargement may have some connection with the hypertrophy of the heart and increased arterial tension. The condition of the spleen would seem to be directly connected with the blood changes. They may be conservative processes, but are closely allied to certain pathological conditions.

The most notable gland changes are those which occur in the secretory and excretory glands. The salivary glands, the glands of the uterine neck, the sebaceous and sudoriparous glands, and those of the stomach, all, to a greater or less extent, varying with individual peculiarities and susceptibilities, undergo functional and organic change. These modifications of gland structure and function may be the physiological outgrowths of the circulatory disturbances, increased nerve irritability, and extraordinary activity of the nutritive energies. Turgescence is a common factor, and increased secretion a common result. They are probably eliminative and compensatory conditions, but why should they vary so much in different women, and in the succeeding pregnancies of the same woman without apparent cause? As a rule, the increased secretions are simply the physiological result of glandular activity. Excessive salivation, uterine hydrorrhea, and the vomiting of unusual quantities of fluid must, however, be considered pathological.

The changes which take place in the mammary glands are developmental. Milk is the natural aliment of young animals. Maternal lactation is the natural method of supplying it to the infant. The secretion of milk is the ultimate product of those changes in these glands, which begin with pregnancy and are completed during the earlier days of the puerperium. Lacta-

tion begins with birth of the offspring, and continues for an indefinite period. The function is not suddenly established, nor does it suddenly subside. The periodical evolution of the breasts corresponds with the progress of pregnancy. Both processes are gradual. The gradual subsidence and cessation of the function of milk secretion should correspond with the gradual involution of the gland structure and its return to a state of quiescence and diminished size. With the recurrence of pregnancy the process of evolution and functional activity is re-awakened. No other organs of the body, except the uterus and ovaries, are subjected to similar periodical changes. As the uterus and ovaries, so likewise the mammary glands, when the period of sexual involution begins, undergo those changes which finally terminate glandular activity. The processes of periodical evolution and involution are in inverted parallelism. The former is as necessary to promote the secretion of milk as the latter is to restore the gland to a normal quiescent condition, to await rehabilitation and renewed functional activity with succeeding pregnancy. To the functional irregularities and derangements caused by artificial interference with these physiological processes must be traced many of the tumor diseases to which these glands are so liable.

Several years ago, when engaged in the study of the diseases of the lymphatic system, I suggested that the cicatrices and pigmentations of pregnancy were due to disturbances of the lymph spaces. Subsequently, I demonstrated that the cicatrices were dilated lymph spaces of the corium. Since then Creighton has verified my suggestion in regard to pigmentation. These pigmentations are due to the deposition in the lymph spaces and other lymph structures of the waste products of evolution. The discoloration of the areolæ of mammary glands is one of the earliest signs of the evolution, and the latest to disappear in the involution of the glands. It is the result of the deposit of pigment granules in the connective-tissue spaces. Granular pigmented cells are also found within the secretory acini and in the lymph spaces of the subjacent lymphatic glands. The pigmentations in other localities are, probably, similar depositions of the waste products of tissue changes taking place in adjacent and neighboring parts.

The lymphatic structures of the mammæ are essential ap-

pendages of the secretory apparatus of the glands; and in the breasts, as elsewhere throughout the body, are the receptacle of the redundant elements and products of nutrition. The absorption and disposal of these products and their elaboration and utilization are the special functions of the lymphatic system. These processes are very active during pregnancy.

Physiological leucocytosis is one of the characteristic phenomena of pregnancy. Virchow¹ was the first to call attention to the fact that these periodical excesses of white corpuscles in the blood were not due to changes taking place in the blood itself. They are mainly the product of irritation of the lymphatic glands. He says: "In proportion as pregnancy advances, as the lymphatic vessels of the uterus dilate, and the interchange of material in the organ increases with development of the fetus, the lymphatic glands in the inguinal and lumbar regions become considerably enlarged, and sometimes to such an extent that, if we were to find them in a similar state at any other time, we should regard them as inflamed. This enlargement conveys into the blood an increased quantity of fresh particles of a cellular nature, and thus from month to month the number of colorless corpuscles augments." The lymphatic structures of the pelvic region must be the chief source of the leucocytosis of pregnancy; but with Creighton² we "must believe that the abundant cellular waste products of the breasts contribute to that condition."

The disposal and utilization of the unused and waste products of secretion is one of the marvellous phenomena of pregnancy. The lymphatic system is the laboratory in which these materials are re-prepared for future nutrition. The increased burden imposed upon it excites new and augmented activities. It seems to occupy the relation of an intermediary, completing the physiological processes and protecting the organism from pathological conditions. But as organs of reception, filtration, elaboration, and conveyance, the lymph glands and structures may become foci for the generation and diffusion of disease.

The liver and kidney have increased work to do during pregnancy. Trousseau and several other observers have insisted that the liver was enlarged. It supplies the bile which is an

¹ "Cellular Pathology," p. 224.

² "Physiology and Pathology of the Breast."

essential element of digestion. It is also an excremental organ, inasmuch as it receives the blood from the portal system which is charged, in part at least, with the products of augmented blood-supply to the pelvic organs and of the enormous developmental work which takes place in that region. The portal blood must be loaded with these excrementitious matters, and greatly increased duty must, consequently, be imposed upon the liver. As an emunctory, the liver is usually equal to the emergency; but this function must be supplemented by the increased eliminative capacities of the skin, lungs, and kidneys. In health these organs preserve their compensatory activities; but ineffective power in either may lead to accumulations in the blood which will poison the entire organism and produce disastrous results. The lungs eliminate carbonic acid; the skin dissipates animal heat, and excretes water, urea, and salts; but the kidneys are the chief emunctory glands. Upon them devolves mainly the elimination of the useless and poisonous products of secretion and tissue change. They have no recrementsitious function to execute. Through them the waste is finally discharged. This office is a relentless necessity. The compensatory organs are absolutely inadequate to assume the duty and maintain health. During pregnancy the work is vastly increased, and a larger quantity of abnormal elements find their way into the urine. With the progress of uterogestation the more urgent is renal elimination, and the more imminent the danger of disturbance of the function.

I need not now detain the reader with a recital of the pathological phenomena of the albuminuria of pregnancy; but I cannot permit the occasion to pass without impressing upon him the importance of early recognition of the initial sign of its presence. I have more than once expressed the opinion that puerperal eclampsia and its lamentable consequences were too often attributable to neglect. I hold that the pregnant woman should be under the continuous observation of a competent physician; and when such is the case, he is responsible for the occurrence of avoidable disease. I believe, furthermore, that if such observation were diligently and intelligently pursued, the cases of eclampsia would be greatly diminished, and the mortality would be reduced to its minimum.

I venture to call attention to another circumstance too

often forgotten. More women die of renal disease during the period of child-bearing life than men of the same age. The ordinary result of complete recovery from puerperal nephritis after delivery is too often accepted as inevitable, and the patient is discharged without even an admonition of the peril which may hasten her untimely death.

I will remind you also of the physiological relationship and reciprocal dependence of the excretory functions of the lungs, skin, intestinal tract, and kidneys. Disturbance of this close connection may speedily develop great disorder.

Until recently, the appearance of albumin in the urine was universally held to be the symptom of threatening danger, notwithstanding the facts that in very many cases no grave complications occurred; and in many other cases, even when the symptoms denoted serious lesions of the kidneys, all traces of disease speedily and spontaneously subsided after the evacuation of the uterus. There can no longer be any doubt that albumin does appear in the urine during health as a physiological phenomenon; but whether such a condition is ever present during pregnancy is yet a mooted question.

Physiological albuminuria has been ascribed to various causes. The presence of albumin in the urine of the new-born has been attributed, by Ribbert, to the protoplasmic condition of the cells of the glomeruli; by Rosenback, to superfluous albumin in the blood, due to too rapid disintegration of blood-corpuscles; and by Senator, to the increased vascular pressure in the glomeruli, coincident with increased loss of water through the skin and lungs, and disintegration of blood-corpuscles. In the urine of the healthy adolescent, it is ascribed to rapid growth and development; and in the urine of healthy adults, to excessive muscular activity, the ingestion and digestion of highly-albuminous foods, mental excitement, and cold bathing.¹ Does the state of pregnancy present any conditions analogous to these alleged causes of physiological albuminuria occurring in males and non-pregnant persons? If so, why should not a similar result follow? It may be straining facts too far to insist that the increased arterial tension, the blood degradation, the rapid growth and development, the mental disquietude, the augmented cutaneous and pulmonary exhalations, and anemia

¹ Medical News, August 29th, 1885.

of pregnancy are phenomena similar to those present in otherwise healthy infants, adolescents, and adults, in whose urine albumin may be found; but the conclusion will not appear so over-drawn when to those conditions may be added the probable disturbance of the functions of the liver, the almost constant presence of alimentary and nervous perturbations, and possible ingestion of an excessive quantity of highly-albuminous foods, which are occasional factors in the causation of albuminuria. Special mention is made of cold bathing as a cause of physiological albuminuria. May not sudden chilling of the cutaneous surface, rapid dissipation of heat, and consequent determination of chilled blood to the internal organs be an equally effective agency, when the result of imprudent exposures and insufficient clothing? Cold bathing, though a frequent, is not such a common practice among pregnant women as other indiscreet exposures of the person to chilling influences.

Pregnancy exhibits during its progress many other phenomena not unlike those frequently associated with albuminuria in non-pregnant persons, and believed to be active agencies in the causation of such pathological conditions. The most common immediate cause of puerperal albuminuria, and perhaps an equally frequent cause in the non-pregnant, is the increased tension of blood in the glomeruli, either from increased afferent pressure or undue efferent resistance. The arterial tension of pregnancy finds its causes in the enlarged left ventricle, greater blood mass, blood degradation, disturbances of the excretory organs, especially of the skin and bowels, and derangements of the nervous system, either local, general, or reflex. The efferent resistance may be either capillary or venous, and may be due to functional or mechanical conditions. If, then, these phenomena are physiological in the pregnant female, and pathological in the non-pregnant, and in each instance stand in like etiological relation to albuminuria, must the appearance of albumin in the urine differentiate an abnormal from a normal pregnancy? Experience tells us that in many cases of pregnancy very large quantities of albumin appear in the urine without the occurrence of any serious complication, and that it usually disappears after delivery, and sometimes after the death of the fetus *in utero*. It may be physiological in a few, functional in many more; but we must in the future, as in the

past, continue to regard it as pathological in the majority of cases, and as a danger signal of the gravest importance.

With this *ensemble* of physiological conditions and pathological possibilities, do you marvel that some pregnant women get sick and a number die? It is no answer to tell me that the ailments and mortality of pregnancy are incidents of education and civilization. If so, the most effective method of hygiene would be the relegation of every pregnant woman to besotted ignorance, barbarism, and beastliness—a remedy more revolting even than “Vou-doo” medicine, which traces cause and effect, and disease and recovery to stupid, disgusting and criminal superstitions. In view of the facts that among civilized people the average lifetime is greater, the mortality of the lying-in is less, and more women live out the allotted life-time now than during any previous period of medical history, I repudiate any analogy derived from the customs, habits, practices, and their results among nomadic, aboriginal, and barbaric races and peoples. With the progressive improvements in the conduct and management of the pregnant and puerperal states, the expectancy of life and longevity of the post-cessation life have increased.

The hygiene of pregnancy demands an acuteness and accuracy of diagnosis not always or easily acquired. The physiological so frequently approaches the pathological that differentiation of disease is involved in embarrassing obscurity. The insidious beginning of morbid processes is often so illy-defined, and the consequences of delay are so disastrous that the accoucheur cannot afford to abide the issue of complete development when the diagnosis is plainly written in the picture of a grave disorder threatening immediate danger. He must be alert, accurate, ready, and self-reliant.

The present occasion does not permit me to engage in a detailed description of the special disorders of pregnancy. I must assume that you are quite as competent as I am to recognize and treat such diseases. But, following the line of argument previously pursued, I must insist that the most effective method of prevention of the morbid complications of pregnancy consists in the preservation of the normal functional activities of the excretory and emunctory organs.

The constant and necessary physiological relation subsisting

between the skin, lungs, alimentary tract, and kidneys demands vigilant supervision. Constipation should be relieved. No fecal mass should be allowed to accumulate in the intestines. The bowels should be kept in a solvent condition, and an evacuation should be secured every day, either by regulating the diet and habits of the patient, or by such mild, but sufficiently effective therapeutic agents as a skilled discretion may suggest.

It often happens that patients deceive themselves by inattention, and their medical attendant either by evasive or exaggerated statements concerning the state of their bowels. As a rule, one can verify or not, as the case may be, such statements by an examination of the tongue and conjunctivæ, by mal-odor of the breath and person, and by inquiries in regard to the condition of the stomach, appetite, and digestion, the nature and quantity of food, when and how often taken, and whether the ingestion of food and drinks are accompanied or associated with any sense of fulness, discomfort, flatulence, or acidity. Not only will a careful investigation detect the existence of habitual constipation when a positive assurance to the contrary has been given, but it may disclose the cause, and indicate at once the method of treatment.

The inspection of exposed cutaneous surfaces will be greatly aided by palpation. Cleanliness of the skin, and the free functional activity of the sebaceous and sudoriparous glands must be secured by necessary tepid or hot ablutions or bathing. Cold bathing is not always safe. The drinking of large and unnecessary quantities of liquids—an injurious habit with very many people—imposes augmented labor upon those organs charged with the exhalation of fluids. Excessive micturition and profuse sweating are occasionally annoying results of the excessive consumption of liquids.

The respiration may be embarrassed by the mechanical repletion of the abdominal cavity, and by the altered contour of the thorax, which are unavoidable conditions. This discomfort may be greatly aggravated by flatulent distention and over-loading of the alimentary tract, due to the ingestion of acescent and unsuitable foods, and to constipation before referred to. A more significant disturbance of the respiration may result from the blood degradation and anemia.

The constituent and dynamic changes in the circulation more often perhaps pass the physiological limit than any other of the phenomena of pregnancy. The blood is a fluid tissue. Into it are poured (Osler) the commodities needed for nutrition, and from it the other tissues derive the materials they require. Notwithstanding the ceaseless change and exchange which go on, a uniformity of composition is one of the striking characteristics of health. The blood-plasma is supposed to supply nutriment to the tissues, and the red blood-corpuscles are the carriers of oxygen and carbonic acid. In pregnancy, the former is greatly diluted, and the latter greatly diminished in number. When these changes pass the limit of health, the consequences are numerous and may be serious. Cell nutrition is interrupted; formative activity is lessened; the metabolism of tissues is disturbed; waste increases, followed by impaired appetite, enfeebled digestion, loss of physical vigor, increased nerve irritability, altered and diminished excretion and secretion, with occasional cerebral and intellectual disturbances. These conditions may be associated with some one or more of a variety of resultant nervous perturbations, or other not uncommon disorder of pregnancy. The anemia of pregnancy is, to a greater or less degree, always present. As an element of causation in the production of the diseases of pregnancy it cannot be excluded, and must be accepted as the most constant and potential factor. To it, and to the mechanical disturbances of the abdominal viscera, and interference with the function of respiration, we must look for the causes of most of the morbid complications of pregnancy. When this anemia has reached a high grade, its ravages are not easily arrested during the continuance of pregnancy. Our best and most successful efforts never free us from the apprehension of recurring danger. Prevention is the sheet-anchor. To effectively accomplish this, a vigilant supervision of the patient is imperative. The diet must be regulated and adapted to existing circumstances; disturbances of the alimentary tract must be obviated; the excretory and eliminative functions must be protected; sufficient sleep must be secured; all sources and causes of anxiety, irritation, and excitement must be removed; sunlight and fresh air must be supplied; and last, though not the least important, exercise in the open air must be insisted upon. To these

hygienic measures, such therapeutic treatment should be added as intelligent experience and observation have proven to be useful.

The hygiene of person should be supplemented with the hygiene of habitation and sleeping-apartments. A large, dry, well-ventilated and well-lighted room, above the ground floor, should be selected for the sleeping-apartment, and this should be in a dwelling equally faultless in regard to ventilation, dryness, sunlight, and freedom from noxious effluvia, and sewer, or deleterious exhalations. As pregnancy advances, the clothing should be adapted to the changes in contour and form; all tightly-fitting garments, stays, garters, and other uncomfortable appendages should be either entirely dispensed with or so adjusted as to remove unequal pressure, and avoid the constriction of parts.

DERMOID CYSTS OF BOTH OVARIES. A DIVERTICULUM
FROM THE ONE ON THE LEFT SIDE INCLUDED WITH-
IN THE RECTUM. OVARIOTOMY. RECOVERY.

BY

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(With Cut.)

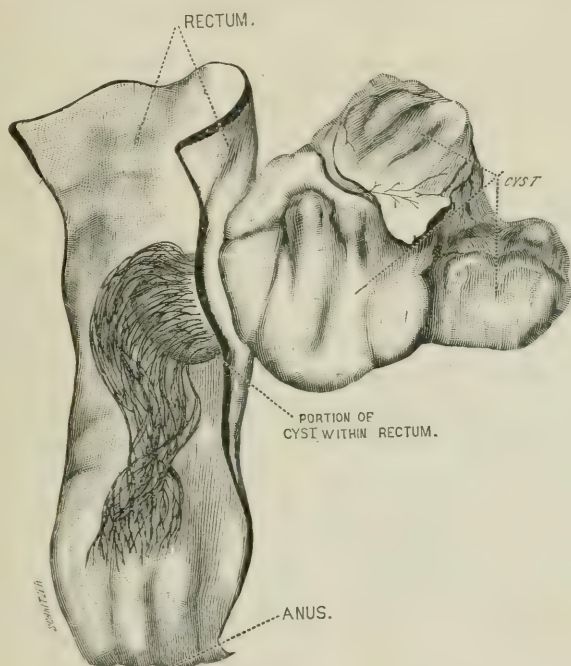
REMARKABLE as some of the developments have been in connection with the growth and removal of ovarian tumors, I have been unable to find anywhere a parallel to the one which is here recorded. Ovariectomy is indeed a very common operation at the present time, but when it involves details as unique as those which were present in the case which is here presented, no apology seems necessary for making a particular record of it.

The subject of this case is a German lady whom I was requested by Dr. F. A. Castle to see in company with him. A large abdominal tumor was evident, springing from the right side, cystic in character, but with solid portions, especially within the pelvis. The uterus was of normal depth and mobility and was, apparently, entirely free from the new growth. A diagnosis based

upon these points was made, and Dr. Castle kindly referred the patient to me for operation, which was deemed entirely feasible. The following history was obtained from the patient. Age 48, married, and now living with her second husband. Menstruation began at ten years of age, and was always regular until two years ago; since then the intervals have varied between two weeks and four months, the quantity usually being normal. For many years she has suffered from frequent and severe headaches which would begin as soon as she awoke in the morning and continue until sundown. During the past two years they have been especially severe. She has had one child and two miscarriages. The child was born twenty-five years ago, after a tedious labor, which was accompanied by laceration of the cervix and perinæum. Ever since that time she has had more or less pain in the right iliac region. The last miscarriage occurred ten years ago, previous to any trouble in the bowel or evidence of tumor. Six years ago, she observed one day, while at stool, that a bundle of hairs protruded from the anus. She tried to pull it away, but was unable, and stopped pulling only when compelled to do so by the severe pain which the effort caused. She refused to permit a doctor to examine her, and one day succeeded in pulling it all out, about three years after it was first observed. Since then she was not aware that it had grown again. About the same time she began to be troubled with very obstinate constipation which continued two years. Two years ago, she first began to notice that her abdomen was growing larger. She was recommended to a quack in Philadelphia, who treated her for dropsy as well as for constipation, using blisters upon the abdomen for a long time, also massage of the abdominal walls, and purging her to excess with frequent doses of aloes and scammony. The result of this treatment was unsatisfactory, and for the past year the development of the tumor has been rapid. No inflammatory symptoms have been present at any time, unless, possibly, at the time when she was undergoing the excessive purging.

On May 28th (1885), I operated upon the patient with the assistance of Doctors Castle, Peaslee, Goffe, and Currier. A short incision in the median line exposed the cyst, which was free from adhesions, with the exception of one, of moderate firmness, over the fundus of the bladder. Nothing unusual occurred in the removal of this tumor, which had developed from the right ovary, contained several quarts of bland fluid, and was also the seat of three dermoid cysts which contained an abundance of sebaceous matter and hair. Upon the left side of the pelvis a tumor still remained, of the size of a very large orange, and firmly imbedded in the pelvic tissue. Some force was required to remove it from its bed, and this operation was followed by free oozing of blood, which was checked with some difficulty. The pelvic peritoneum was, of necessity, torn in the enucleation of the tumor, from which a fibrous prolongation projected in the direction of the rectum. Drawing upon this prolongation with sufficient force, the rectum

was opened, a rent one and a half inches in length being made, and through this opening a small diverticulum, attached to the tumor by the fibrous prolongation, was drawn, which had growing upon it a long lock of black hair smeared with unmistakable fecal matter. The position of the wound in the rectum, at the bottom of a deep and dark cavity, made its closure a matter of the greatest difficulty. The cavity was illuminated, however, by a large mirror held at a sufficient height above the patient's body, and a continuous silk suture was at length applied. The abdominal cavity having been thoroughly cleansed, the parietal peritoneum was



closed with a continuous catgut suture, excepting at the lower angle, which was left open for the passage of a glass drainage tube, the latter being carried to the bottom of Douglas' cul-de-sac. Finally the abdominal wound was closed with silver sutures deeply passed, dusted with iodoform, and antiseptic dressings adjusted. The carbolic acid spray was used in the operating room for four hours previous to the operation, which was performed with antiseptic precautions. Though very much prostrated by the operation, the patient began to rally within five hours, the temperature at that time being 101° F. per vaginam, and the pulse 102 per minute. The next day the temperature reached 103° F. at 10.30 P.M., which was the highest point reached at any time. The third day

the limits were $101\frac{1}{2}^{\circ}$ F. and $102\frac{1}{2}^{\circ}$ F. The fourth day the variations were considerable and were between $100\frac{4}{5}^{\circ}$ F. and 103° F. From that day until the close of the ninth, the temperature did not get much below 100° F. nor above 101° F. At the beginning of the tenth day it reached 102° F., and during the next twenty-four hours varied between that point (102°) and $100\frac{1}{2}^{\circ}$ F. Early on the thirteenth day $102\frac{1}{2}^{\circ}$ F. was reached, but from that time the tendency was toward the normal. The pulse began to gain in strength soon after the patient rallied from the shock of the operation, but was intermittent in character, and retained this quality until convalescence was well established. It ranged between 100 and 120 on the second day, and on the third between 66 and 90.

It is interesting to note that the low pulse-rate coincided at times with the higher pointings of the temperature. Only once did the pulse rate reach 100, after the third day, and it was confined during most of the time between 75 and 95. For five days following the operation, hypodermic injections of ten minims of Magendie were required every twelve hours, which sufficed perfectly to relieve pain and restlessness. Champagne and brandy with carbonic-acid water were given at suitable intervals, and the nourishment for the first few days was confined entirely to milk. The kidneys worked well from the beginning, and the patient slept much of the time. Toward the close of the second day, the ice cap and abdominal coil were applied, and were very grateful in their effects. They were retained much of the time, that is, whenever the temperature exceeded 101° F. A very offensive bloody discharge was passed *per vaginam* on the fourth day, which became less in quantity and less offensive on the following day. The drainage-tube was removed on the sixth day. The quantity of bloody serum in the abdominal cavity, which was found at the different examinations, was quite insignificant. The sutures were all removed from the abdominal wound on the seventh day, and good union was secured excepting at the site of the drainage tube. On the morning of the eighth day, a dose of castor oil was given by the mouth, and this was followed two hours later by an enema of sweet oil. A large fecal movement resulted an hour later, and three hours and a half subsequently there was another, with a third, a fourth, and a fifth at short intervals. No bad results of any character followed this thorough evacuation of the intestines. On the contrary, the patient was greatly relieved, and the evidence was perfectly satisfactory that the wound in the rectum had entirely and firmly healed. Complications from this period existed in the form of a very painful irritation of the bladder, which yielded after a time to suitable internal medication and irrigation; in the formation of an extensive mural abscess at the site of the drainage-tube which burrowed into the left iliac fossa, but finally healed entirely, and in the formation of three fistulous tracks within the abdominal wound, external to the peritoneum. These latter were attended with

great pain and the development of a profusion of fungoid granulations which were very suggestive of malignant disease, but which finally yielded to persistent treatment with solid nitrate of silver. It may be proper to add that the pain produced by the caustic was greatly relieved by applications of a four-per-cent solution of cocaine made directly to the wound. The patient has not been seen professionally since the 1st of August, but at that time she seemed to have recovered entirely from her operation, and any consequences which may have followed from it.

NOTE.—The patient has been seen within a few weeks by Dr. Castle, and he was informed by her that she felt perfectly well.

A few words may be added in regard to the unique specimen which developed from the left ovary, a drawing of which (very accurately made by Dr. A. P. Doty) accompanies this article. The body of the tumor presents nothing especially peculiar, but from its lower border springs the diverticulum, which resembles a pigeon's egg in shape, size, and color. From or near the lower extremity of the diverticulum projects, as may be plainly seen, a tuft of hair three inches long. The fecal matter which covered this when it was removed from the abdominal cavity gave rise to the unpleasant suggestion that the lumen of the intestine had been invaded. This, however, did not prove to be so serious an accident as was feared. Several interesting questions arise in connection with this peculiar specimen pertaining to the field of the embryologist and pathologist rather than to that of the surgeon. My own idea is this, that the diverticulum was pushed through the anterior wall of the rectum by a process of ulceration, and absorption of that wall during the growth of the tumor, the diverticulum evidently being a portion of the dermoid tumor of the left ovary.

A CASE OF PROLONGED GESTATION, WITH AUTOPSY OF
THE FETUS.

BY

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(With three cuts.)

"HIPPOCRATES was a natural philosopher, and he said that the utmost time that pregnant women could preserve in their womb the product of conception was ten months. Wherefore, if the woman gives birth ten months after death of the husband, the new-born should be acknowledged as his child. But if the birth occurs on a day of the eleventh month after the death of the father, it should not be considered as his son."

The "Partidas," Spanish laws of the twelfth century, decreed the above. The Roman laws had already prescribed the following: "*Post decem menses mortis natus non admittitur ad legitimam hæreditatem*" (*Digesto*, lib. xxxviii., tit. vi.). The laws of modern Spain, France, Prussia, Austria, Scotland, and other countries are well known as leaving in doubt or rejecting the legitimacy of children born three hundred days after the last possibility of sexual intercourse in married life.

These beliefs, indorsed by law since such ancient date, are in our times supported by many scientific men. In the medical literature of the countries mentioned, there prevails amongst tocologists and medical experts a general opinion which repudiates the possibility of gestations prolonged beyond the time designed by law. As an ample proof, we have merely to refer to the assertions inserted upon the subject in the two excellent modern treatises on obstetrics published in Paris by Tarnier and Chantreuil, and by Charpentier. Even in England and in the United States, where the silence of legislation in this respect has called for an assiduous study thereon, and the consequent acknowledgment of prolonged gestation, nevertheless, authorities of so high standing as Matthews Duncan still repel that belief.

In consideration of the foregoing reasons, I have deemed it my duty to report the following case:

Maria X., native of the Canary Islands, of white race, 22 years of age, of low stature, well formed, strong and healthy, unmarried. Menstruation began in her fourteenth year and was always regular and painless. Her first act of coition took place on the 6th of May, 1884, on which day she was raped. Without any other intercourse, from that period her menstruation ceased. In August she was sure of her condition, having consulted a physician, who confirmed her suspicions of pregnancy, and anxiously desiring to hide her shame, she fled in October to Cuba.

These facts were gathered by my old friend and teacher, Dr. Valencia, Professor of Obstetrics in the Havana University, who was in charge of the clinic when the patient was admitted to the hospital. He placed reliance on her statements, and I also considered them true, in view of the sincerity and integrity of her behavior; and, on the other hand, I cannot see that she had any special interest in deceiving us, as she was entirely unknown in Cuba, and nobody had any relation with or knowledge of her family.

She enjoyed good health during her pregnancy.

At the end of January, Dr. Valencia took a leave of absence, and I was put in charge of the obstetrical clinic; Maria was presented to me as the case nearest to labor, and I was earnestly requested to avoid, as much as possible, explorations by the students, particularly vaginal examinations, which would be morally most painful to her. This latter means of exploration was, therefore, only once resorted to. We then found narrowness of the vagina, particularly of the fornix; the cervix, high up and pointing backwards, was large, of a conical form, and of unusually firm consistence, the external os being closed. The pelvic diameters were normal. Palpation showed the fetus to occupy the left occipito-anterior position, the head being entirely above the brim, and the whole child easily movable. Heart-sounds, 140 to 160 a minute, were heard, as usual, to the left.

About the middle of February, Maria suffered slight uterine pains, which appeared to be preliminary to labor; and although they acquired intensity at times, there never occurred a true commencement of labor. During the following days of February, and the first fortnight of March, we hardly paid any special attention to her, and we were led to infer, in spite of the reasons I had to believe the truth of her story, that she had mistaken the date of the coition.

At 3 A.M. on the 19th of March, labor began and proceeded very slowly, the os not being fully dilated until 4.30 A.M. of the 21st, the patient being at this time in good condition, vagina moist and temperature normal, no nervous depression, patient merely feeling a little tired. Membranes ruptured at 5.30 A.M. Amniotic fluid normal.

The occiput at this time was nearly on a level with the sub-pubic arch, and after about an hour, the pains growing weaker and no progress being made, forceps were applied by Dr. Valencia, and after strong traction the child was delivered, the perineum being extensively ruptured in spite of the greatest care in support, and the performance of episiotomy. Placenta and membranes expelled naturally. Serre-fines were applied to the perineum, but did not secure union. The temperature or pulse never reached 100, either during labor or after, convalescence being normal. After the patient was up and about, symptoms of subinvolution and prolapsus appeared. Examination revealed, besides the laceration of the perineum which had healed without uniting, a bilateral laceration of the cervix, extending on the left side nearly to the vaginal junction, with considerable eversion and thickening of the mucous membrane. About the middle of April I did trachelorrhaphy and perineorrhaphy, and on the 26th of July the patient left the hospital in good health, and so strong that she was employed as a wet-nurse.

The child was a male, of extraordinary dimensions, measuring 54 cm. in length, and weighing 5,300 gms.

The diameters of the fetal head were as follows:

Maximum diameter,	144 mm.
Occipito-mental,	134 "
Occipito-frontal,	127 "
Suboccipito-bregmatic,	99 "
Biparietal,	102 "
Bitemporal,	92 "

No measures were taken of the circumferences of the head. The blades of the forceps had caused strong marks of depression on a level with the left temporal and on the posterior part of the right parietal bones. There was a large hematoma at the occiput, and another over the right frontal bone; a depression of the bone being very evident.

The skin was free from sebaceous material, and the epidermic coating of the whole body was in a state of desquamation, which took place in very large semi-transparent scales. On the parts where the desquamation was more evident, the dermic mucous coat was not denuded, as the deeper corneal layer of the epidermic coating was always preserved. There was no blistering, softness, or maceration, nor any other pathological condition of the skin.

The nails greatly overtopped the ends of the fingers, and their tips were thin and getting loose on several of the fingers. The thumb-nails measured six millimetres from the root to the top, with an equal measure in their width.

The child was born partially asphyxiated, but was recuscitated; it, however, remained in a semi-tetanic state, and slowly passing into a condition of coma, died six hours after birth.

Many difficulties having to be overcome, the autopsy could not be made for several days, the fetus being meanwhile kept in alcohol. The external appearance has been already described.

The histological examination of the skin was performed, and confirmed our previous statement that the desquamation had only caused the loss of the superficial part of the corneal layer. In the abdominal and thoracic cavities, we only found congestion of both lungs and a slight degree of putrid decomposition of the viscera. The scalp being lifted up, the hematomata of the parts indicated were confirmed, the sanguineous effusion staining the bones markedly. Over the right frontal bone the periosteum was loose. Upon extracting the brains, a remarkable extravasation of blood in the interior of the cranium also became evident. In our necroscopic examination I have aimed to be most particularly descriptive of those parts of the skeleton from which I could derive a more accurate idea of the age of the fetus.

Dry skull.—Its large size was noticeable, its form was very regular, although some partial deformations could be perceived. On handling the cranium, its little compressibility, heavy weight, and firmness were at once striking.

My esteemed friend and colleague Dr. Montané, a favorite pupil of Broca, has enabled me to be more exact and to give more ample details in this respect, as he has had the kindness to take the anthropological measures of the cranium, and has also furnished me with original unedited data which will allow me to make comparative studies in the reflections accompanying this relation.

The excesses in the dimensions of this cranium are relatively greater in the antero-posterior and transversal diameters than in the vertical, which gives to it a flattened form. The regularity of its whole can be well appreciated by taking a view of its upper part.

The cranial dome is more depressed on the right side than on the left. This discrepancy of height, in the places where it is more remarkable, scarcely equals the thickness of the internal border of the bones, and therefore there is not a real overlapping in the sagittal suture.

The aforementioned depression in the right frontal is of a gutter form (*rinnenförmig*), commencing at about half a centimetre from the central line and one and one-half centimetre from the anterior angle of the great fontanelle, and reaching the frontal eminence. This furrow is two and one-half centimetres in length, and one and one-half in its greater width, and of such depth that, besides the disappearance of the remarkable natural convexity of this region, it has caused a concavity of two and one-half millimetres. The outer table in this place is not fractured, but the inner one shows a fracture which follows the direction of one of the nutrient vessels of the bone.

The overlapping of the parietals upon the occipital bone is very considerable, being $7\frac{1}{2}$ mm.

The sutures are almost serrated, the bones being frequently dovetailed and presenting projecting points and recesses, so that the joints show little or no motion. This arrangement is by far

more noticeable in the posterior part of the sagittal and in the coronal suture, particularly on the right side. There are small Wormian bones in the sutures, twelve being found in the coronal. In some of the places where there is overlapping, this appears to have caused the tearing of the fibrous tissue that unites the edges of the bones.

The posterior fontanelle does not exist.

The anterior is not of the usual rhomboidal form, the advanced ossification of the antero-superior angle of both, parietal bones having led to the disappearance of the triangle that would have been formed in its posterior half. In consequence of this loss, this fontanelle has the form of a triangle, two sides of which are curved and its surface thereby further diminished. Its height is 18 mm., and its base 15 mm.

The thickness of the parietal and the frontal bones measures generally $1\frac{1}{2}$ mm. The compact consistency of the outer and inner tables is evident. Interiorly we can perceive with the finger shallow cerebral impressions. In the upper and lower jaws the septum that divides the first and second molars is entirely formed, and the one destined to separate the second from the third is half formed. In the inferior maxilla, the mental foramen stands on a level with the first molar.

The other parts of the skeleton that have appeared to us more worthy of notice are the centres of ossification, the dimensions of which we give below, their osseous structure being evident.

Centres of ossification.		Length.	Width.
Of the lower epiphysis of the femur,		$9\frac{1}{2}$ mm.	6 mm.
" " upper	" tibia,	8 "	$4\frac{1}{2}$ "
" " astragalus,		10 "	$5\frac{1}{2}$ "
" " cuboid bone,		4 "	$3\frac{1}{2}$ "
" " upper epiphysis of the humerus,		3 "	2 "

I have submitted the reasons that have led me to entertain the belief that a single coition occurred, and that the exact date of its occurrence is known. However, there are so many motives of the greatest delicacy and complexity that might prevail in a woman to induce her to fall into a mistake or to misrepresent in this respect, that there is always some point of doubt or objection left in the mind of the reader of such histories from the most competent authors. Even in cases where the physician has been able to observe the appearance of the earliest signs of pregnancy, there are possible causes leading to error. Any illness may bring about an amenorrhea and the pregnant state might immediately follow. Lusk pointed out a case in the Obstetrical Society of New York. And we cannot affirm that a diagnosis of the real cause of the amenorrhea can be properly pronounced, because we think

right to repeat after Emmet—"it may be questioned if amenorrhea can take place in health."

The justice of the doubts that like cases bring forth is so clearly appreciated by me, that I cannot refrain from admiring the scientific self-denial and fortitude of physicians who, having had the good fortune to have in their own marriage the chronology of such a scientific curiosity as we now study, have published the case. I believe that under such circumstances there would prevail an anxious desire of keeping secret the occurrence, as, even with the support of silence, there might be reason left for uneasiness. Fourdes says in this respect, in his excellent article "*Natalité*" inserted in the "*Dictionnaire Encyclopédique des Sciences Médicales*," "*Nul n'est témoin dans sa propre cause*"—"Nobody can be witness in his own cause."

In our case we find the diagnosis of pregnancy given by a physician in the month of August, but we cannot attach to it any great reliance, as we do not know the doctor, nor have we the certainty that he perceived the heart-sounds at such an early date, and he might have ventured an affirmation based on signs of mere probability. The pains and contractions suffered when the pregnant woman was at the end of her ninth month, according to her report and calculation, might also be taken into account, even with due regard to the expectant attention that prevailed in her, and to the fact that said pains were never so intense as to constitute a missed labor. On the whole, these antecedents lead us to believe that the labor commenced 317 days after the coition that caused the pregnancy, but we do not consider them such as to allow us to entertain the idea that this case offers a better warrant of certainty than others already published.

The course of labor was that already indicated in cases of dystocia consequent upon excessive volume or advanced ossification of the fetal head. It should not appear strange that the diagnosis should then have been delayed until after the delivery.

Dr. John Ellis Blake, in an article published in this JOURNAL, Vol. XII., 1879, pointed out the deficiency of classical books in this respect and the difficulty of making a diagnosis. Furthermore, it is known that notabilities of so high reputation as Peaslee

have pronounced these as cases of retarded labor, and Thomas, who enjoys the merit of having twice diagnosed an advanced ossification before labor had taken place, did so only after repeating in vain tractions with the forceps. In fact, it was almost impossible to act in our case otherwise than we did. Pajot, in an excellent article upon the excessive retardation of labor and referring to real tedious labor, says: "when a labor progresses slowly it is never delayed." "The pulse, the mother's temperature, the fetal inspection must guide us in deciding whether to act or to remain in expectancy."

These were the prevailing conditions up to the morning of the 21st, and our behavior can be described after the expression of Pajot—"surveillance, expectation." I am firmly convinced that there was no reason to interfere until, after the rupture of the bag of waters, we obtained the confirmation of the position; and the labor, instead of being more speedy, became more slow. Some advantages could have been derived from craniotomy: the death of the fetus as well as the ulterior sufferings of the mother allow us to say so. Moreover, even if the fetus had been saved, its life would have been worthless, on account of the deep lesions of the nervous system consequent on such dystocia, as has been so well demonstrated by Jacobi and Blake. We call attention to the fact that the suboccipito-bregmatic diameter could make its way through the pelvis, whilst the suboccipito-frontal did not pass, as is shown by the position of the frontal depression. This confirms the importance given by Duncan to said suboccipito-frontal diameter, and shows us that labor would have terminated quite naturally if the overlapping in the coronal suture could have been possible.

The repeated careful examinations of the genital organs of this woman after labor allow us to conclude that none of the parts had any vice of conformation or any other pathological condition, except those that are generally consequent upon cervical and perineal laceration. We specially watched in this respect, from the commencement, the uterine cervix, because during labor we came to the belief that the upper part of the cervical canal had not expanded during pregnancy, nor had it become part of the uterine cavity, as usually happens when the formation of Braune's canal takes place.

The fetus' weight, length, and all the diameters of its head are excessive. A study of comparative or statistical data, however numerous, confirms this assertion. Pinard says that out of the 20,000 children born at the Paris Maternity there was only one weighing up to 5,300. Of the 208 cases that Ribemont and Budin have taken as the basis in their investigations upon the fetal head, there is not any one of such a weight as ours, and only two or three reached equal dimensions in length of body or size of head.

The excess of volume has not been of constant occurrence in like cases, and we must add that the small size has been pointed out as the cause of prolonged gestation by two ancient and renowned expert physicians (P. Zacchias and Foderé) who believed that they had observed cases of prolonged gestation in their own wives. But the excess of volume has been observed in other cases referred to by Klein, Rob, Siebold, Liegard, Feltz and Rate, Cailletet, Leishman, Delore, Henderson, etc.

The epidermic desquamation commencing in a living fetus still in the uterine cavity is very rare. The desquamation usually begins in the newborn after the second day, and reaches its maximum on the tenth day (Depaul), and at times it is not properly completed until the thirtieth or fortieth day. Briande and Chaude and Billard do not admit the ante-partum desquamation; there are, however, authentic cases thereof. Depaul has seen it seven or eight times, and gives full details of one of them; Charrière published another one in 1878; Hanks also reported a case in the Obstetrical Society of New York, and Parrot mentions another case of Baer, in which the exfoliation was completed on the first day. It would appear that of these cases we should exclude Hanks', in which a pathological condition seems to have existed, as the dermis, entirely denuded, was besides congested and had a dark-red appearance. Charrière's case would appear, at first reading of his narrative, as a case similar to Hanks', because he states that the epidermis came off as in a macerated fetus; but surely the new-born must have merely lost the superficial layers of the epidermis, so long as he remained alive, in spite of the exfoliation having extended to the whole body; otherwise under such an extensive loss of the total thickness of the epidermis, death would have inevitably taken place, for the very same reasons that

burns of the second degree of an extensive tegumental surface are necessarily mortal.

Depaul asserts that these cases of premature desquamation are due to the action of the amniotic fluid under some alteration, rendering it *irritating*, *acrid*, and *corrosive*, and he adds that this alteration might be caused by its mixture with urine or meconium. The meconium has in fact been expelled in some of the cases of Depaul, in Charrière's, and in our case under review, but this simultaneous occurrence of both facts does not permit us to admit the theory, because the expulsion of meconium, the fetus remaining more or less time immersed in the amniotic fluid mixed with the meconium, is of quite frequent occurrence, whilst the premature desquamation is certainly very rare.

At all events, and leaving aside the conclusions that may be arrived at upon the foregoing hypothesis, it is our principal aim to establish the fact that the phenomenon of desquamation that generally takes place when the new-born is already several days old, occurred in my case when the fetus was still in the uterine cavity.

The excessive size and growth of the nails and the loss of their free ends is also a fact of an importance similar to that of the phenomenon of the skin. Kölliker has demonstrated that the most outjutting and thinnest part of the nail which normally drops after birth has a different structure than the rest of the nail because it corresponds to a previous period of embryonic life.

On referring to the examination of the osseous system, we have to say that its importance to enable us to determine a fixed age in the new-born has been admitted already as a basis for medico-legal investigations. We have not, however, found in the observations, that we have been able to read relative to prolonged pregnancy, that any of them has afforded the opportunity of giving minute details and measurements on this point. Authors generally limit themselves to reporting that the fontanelles and sutures have been found closer than usual, and that the cranial bones were of excessive hardness.

I deem of importance the following comparative statement kindly afforded to us by Dr. Montané, in which he gives the anthropological measures of nineteen fetal craniums at term,

taken by him in the Paris Museum of Natural History in the year 1872. We have added the averages of the same as well as the measures furnished by the cranium in our case, which our friend had the goodness to take. He makes the following remarks: 1st, In all the measures, including that of the curvature, Broca's method has been followed; 2d, in selecting the craniums above referred to in the Paris Museum, the preference was given to those in which the overlapping was not much noticed, though this does not imply that those of large dimensions were excluded; 3d, in the curvature of our present case, it is evident that the measures have been lessened by three causes, viz.: A, the considerable overlapping of the parietals upon the occipital; B, the intercranial membranes being partially loose interfered and obstructed the cavity, wherefore the quantity of bird shot used to measure might have been diminished; C, the depression of the right frontal bone.

Measures.

	Measures taken in the Paris Museum of Natural History.																				Average.	Measures of our case.
Capacity of the cranium.....	375	385	445	505	315	335	340	350	348	335	405	410	310	330	430	355	400	340	372	93	415	
Diameter:																						
antero-posterior maximum.....	120	110	108	114	118	104	105	101	108	110	104	109	114	108	104	108	111	105	112	109'	114	
transversus maximum.....	92	86	88	99	100	82	86	85	84	88	88	89	90	88	83	89	98	86	88	88	89	
bitemporal.....	82	76	79	90	90	70	73	72	71	78	82	82	78	77	77	79	86	78	82	79	05	
bi-auricular.....	68	64	64	72	72	58	60	60	61	65	64	64	66	68	62	60	68	66	68	64	73	
frontal maximum.....	80	70	70	84	78	67	74	70	72	74	70	78	70	78	80	69	78	70	80	75	36	
frontal minimum.....	66	60	55	67	64	58	57	58	62	62	62	62	60	66	59	60	61	60	66	61	31	
vertical baculus bregmaticus.....	92	82	76	79	82	73	73	74	77	74	72	77	74	79	68	70	78	72	74	76		
occipital maximum.....	64	56	54	62	76	54	53	55	60	60	56	72	60	60	56	60	60	60	60	64	63	
Curvature:																						
frontal cerebral total.....	89	98	76	78	77	71	75	69	65	77	65	74	74	76	66	66	75	68	74	73	10	
parietal.....	96	90	78	85	90	86	80	80	82	80	80	80	80	81	81	82	85	80	90	83	05	
occipital.....	88	68	68	78	78	66	72	69	69	68	74	71	76	78	69	69	75	70	64	71	78	
horizontal total.....	356	312	318	335	347	292	304	291	310	320	309	324	330	322	307	310	370	303	324	318	10	
transverse total.....	304	276	270	298	302	258	266	266	270	274	272	272	284	271	251	260	290	264	284	275	36	
Occipital foramen length.....	21	17	20	21	26	19	20	21	21	21	22	19	21	24	23	23	22	24	...	21	38	
width.....	16	16	12	16	17	13	14	14	17	16	15	17	16	16	16	15	18	14	...	15	44	
Naso-basilar line.....	62	58	58	59	60	52	53	50	58	54	57	58	56	56	54	52	56	53	...	53	88	

It is seen that the measures of the skull we report upon always exceed the average of the others, except that of the occipital curve. (This line is taken by anthropologists from the posterior

boundary of the occipital foramen to the superior angle of the lambdoidal suture.) Were we to take into account the decrease of this line caused in our case by the overlapping of the parietals upon the occipital ($7\frac{1}{2}$ mm.), and should we make a compensating correction, this exception would disappear. On establishing a separate comparison between the cranium of our case with each of the nineteen of the foregoing statement, we see that in only three of them, almost all the measures are somewhat larger. But if we again consider the overlapping and the reducing influence it has upon the head diameters, we find that the cranium we write upon attains the size of the three we refer to which greatly differ from the average.

Apart from the measuring, and amongst the several peculiarities observed in the skull, the reduced dimensions of the fontanelles is not certainly that to which we attach most importance; Curtois, in his Paris thesis of 1870, published many measurements of fontanelles in which great diversity can be observed, and they bore no relation to the age of the child. Budin and others have also noted the great variations in the size of the fontanelles. Parrot has, besides, demonstrated the reducing action that *atrepisia* has upon the dimensions of the fontanelles. We find of undoubtedly greater importance the manner in which the cranial bones are united, their considerable thickness, the presence of the cerebral impressions on their interior surface, the formation of the septum between the second and third molar teeth, and the situation of the mental foramen on a level with the first molar tooth, and not with the canine. All these special circumstances are not usually found at time of birth (see Sappey).

In regard to the centres of ossification of the limbs, dimensions of which have already been given in the foregoing clinical observations, we judge proper to insert what we read upon their development in several authors.

The inferior epiphysis of the femur.—The absolute importance attached to this centre of ossification by Beclard as determining the age of a fetus at term is certainly exaggerated, as has been demonstrated by Hecker and Hartmann, but the presence of said centre of ossification of five mm. extension at birth is the general occurrence. Almost all expert physicians agree in this respect. We concur in Pinard's opinion that

“this sign, isolated, should be seriously taken into consideration, but is insufficient.”

Sappey says: The epiphysis of the tibial extremity shows its development towards the end of the last month of pregnancy. At birth, it has the size of a chick-pea.

Quain: A single nucleus for the lower extremity appears several weeks before birth.

Gray: Centres of ossification in the lower end of this bone at the ninth month of fetal life.

Kölliker: At the end of the fetal period, a nucleus appears in the inferior epiphysis.

Superior Epiphysis of the Tibia.—Sappey says: It is already in state of germ at the moment of birth of almost all children, but then it is very small. The osseous point in the corresponding extremity of the femur is thicker, and appears generally twelve or fifteen days earlier.

Quain: Appears more frequently before, but sometimes after the birth.

Gray: The centre of the superior epiphysis appears at birth.

Kölliker: At birth, its two extremities are yet cartilaginous.

Astragalus.—Sappey: The osseous point that is found in the centre of the astragalus appears at the end of gestation, and there is already a trace of it at birth.

Quain: The nucleus of the astragalus appears in the seventh month.

Gray: In the astragalus about the seventh month.

Kölliker: The astragalus (seventh month).

Cuboid.—Sappey: It appears in the sixth month (extrauterine life).

Quain: That of the cuboid at birth.

Gray: In the cuboid at the ninth month.

Kölliker: The tarsal bones that are ordinarily ossified before birth are the calcaneus (sixth month), the astragalus (seventh month), and frequently the cuboid.

Superior Epiphysis of the Humerus.—Sappey: The osseous nucleus of the humeral head appears some months after birth, more usually in the third or fourth month, and it grows rapidly.

Quain: At about the second year the nucleus of the head appears.

Gray: At birth, the extremities remain cartilaginous. Between the first and second year, the ossification commences in head of the bone.

Kölliker: The two epiphyses are yet cartilaginous at birth. During the first year, a nucleus appears in the superior epiphysis.

Upon a comparison of the foregoing opinions, discrepancies arise, and they certainly command new investigations. These

may perhaps have been made and are yet unknown to me. But in spite of the differences that may occur in these observations, it is evident that the centres of ossification that we have studied and inserted in the accompanying cuts show more development and growth than the corresponding ones at birth.



FIG. 1.—Showing advanced centres of ossification of inferior epiphysis of femur and of superior epiphysis of tibia. (From photograph.)

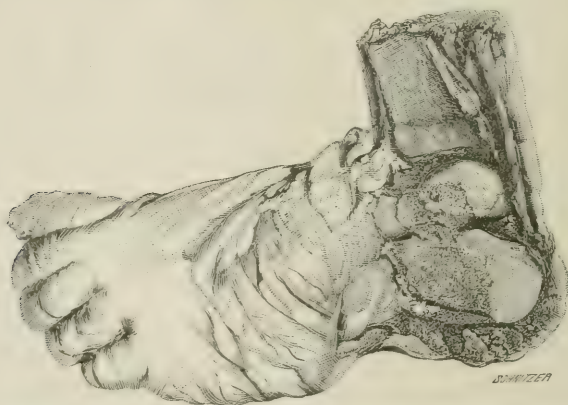


FIG. 2.—Showing centres of ossification in astragalus and cuboid (cuboid not well shown). (From photograph.)

We thus find in the inferior centre of ossification of the femur a longitude ($9\frac{1}{2}$ mm.) nearly double that it generally has (5 mm.). The superior centre of the tibia, existence of which is doubtful at birth, and if it be found it is frequently very small, exists in our case, and its size is considerable. The point of ossification of the astragalus is not of so much import-

ance, though it measures 1 cm., because, according to several authors, it appears as early as the seventh month. That of the cuboid is not of constant appearance at birth, and in our case it is of considerable size. But the appearance of the point of ossification in the superior epiphysis of the humerus is certainly most remarkable, even if it be of the small size it shows in our case. Celebrated anatomists believe that its appearance



FIG. 3.—Showing centre of ossification in superior epiphysis of humerus. (From photograph.)

is delayed until the second year. Sappey, who has made the most valuable investigations in his careful studies in numerous skeletons, of different ages, for the Museum of Orfila, believes, however, that it appears in the third or fourth month. If we adhere to this opinion, the existence of the small nucleus appearing in our case is easily explained.

We think that from the foregoing reflections we are justified in establishing the following conclusions in favor of the diagnosis of *prolonged gestation*:

1st. The duration of pregnancy from a single coition (according to the reports of the mother) was 317 days, if we count up to the commencement of labor, and of 319 until its termination.

2d. The weight and length of the fetus and the dimensions of the head were greater than usual.

3d. In the epithelial system (skin and nails) there were changes that generally occur after birth.

4th. The careful study of the fetal head bones, and of several centres of ossification in the limbs, shows a development of the osseous system more advanced than that which corresponds to the usual time of birth.

TEJADILLO, 18, HAVANA, Sept. 16th, 1885.

DYSTOCIA THROUGH CIRCULAR CONTRACTION OF UPPER
UTERINE SEGMENT.

BYC. H. LEWIS, A.M., M.D.,
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MORBID contractility in the transverse muscular fibres of the cervical segment as a retarding agent in the first stage of parturition is so frequent as to excite no comment, and we all know with what strength and persistence it will often, in primiparous cases, resist both the natural dilating forces and all artificial promoters of cervical relaxation; and, in rare cases, similar action in the transverse bands near the ring of Bandl, due to irregular retraction or adherent placenta, resulting in the condition known as hour-glass contraction, seriously delays labor in its third stage. The case recorded below is the first in my experience in which such a state of affairs in the body of the uterus, seriously complicating the second stage of labor, has been positively demonstrated. This tendency to irregular action may exist in delayed labors more frequently than we know, because, the combination of conditions favorable to its full development seldom co-existing, its partial operation may be overcome by the expellent forces, and the true cause of the delay be, at most, only suspected. At no other point on the fetal ovoid, except the neck, is there space for the formation of a diaphragm by circular contraction, nor there while the ovisac is distended by fluid; and in head presentations, without fluid, the attempt to form a midriff around the neck could not long resist the stronger expellent power above, concentrated on the child's body as a wedge, and acting in the line of gravitation. Few cases combine the three conditions favoring such an accident, viz., breech presentation, excessive circular contraction, and absence of amniotic fluid.

On September 4th, 1885, at 9 A.M., I was called to Mrs. F. G., in her first confinement, at full term. She was 26 years of age, under medium size, but symmetrically built, and healthy. Her

pains had been regular since 1 A.M., yet the os barely admitted the end of the index finger, its rim was thick and rigid, contracting with every pain, and continued so nearly all day, in spite of the usual means for hastening dilatation. As soon as sufficient opening for diagnosis was secured, the breech was found presenting in the right dorso-posterior position. The membranes could not be felt, and their previous rupture was proven by a free discharge of meconium after every pain, yet at no time during labor or after it was there any perceptible escape of water.

At about 6 P.M. the second stage was fairly inaugurated with complete dilatation and pretty good expulsive pains. For an hour or more all went well, and the presenting part came rapidly down, nearly to the pelvic outlet, but there its progress ceased, and thenceforward the only effect of the expulsive efforts was to cause swelling of the buttocks until the pelvis was crammed with a soft elastic mass, giving to the finger an impression like that of the membranes full of water. The strongest traction which could safely be made, with the finger in the flexure of the thigh, failed to either advance the breech or bring down a limb.

With no contraction of the pelvic diameters, no obstruction of any kind within reach of the fingers, and no lack in the "*vis a tergo*," an hour spent in fruitless efforts convinced me that some obstacle existed above, the nature of which was not apparent. True labor pains were now beginning to flag, while there was a constant agonizing pain which allowed the patient no rest; she was becoming discouraged, and I could not cheer her with a promise of speedy relief.

I felt reluctant to interfere in a case, where, seemingly, natural forces should be sufficient to terminate the labor, but manifestly they were not likely to prove so, and it seemed to me better to render aid promptly than to wait until there should be danger of exhaustion coming in to further complicate the situation. Two methods of giving assistance were open to me, between which a choice must be made—viz., application of forceps to the breech, and introduction of a hand into the uterus. The amount of force which I had already vainly expended, with the finger as a tractor, made me doubtful of getting a hold sufficiently secure with forceps applied in conformity with the pelvic curve; and, moreover, being ignorant whether the hindrance to delivery was of a nature to be overcome by traction alone, I should with forceps be working in the dark, while the hand in the uterus would impart to me an intelligent idea of the cause of delay.

Realizing, in a measure, the difficult nature of the proposed undertaking, I requested counsel, and at 9 P.M., my friend, Dr. Cyrus Smith, came to my assistance. He administered chloroform to complete anesthesia, then we waited in the hope that this alone might remove the obstruction if it were simply spasmodic, but, though the regular pains improved under its influence, they effected no more than before. With Dr. Smith's concurrence, I then proceeded to introduce the hand, we both supposing

that under chloroform a foot could readily be brought down. With the patient on the back, the hips to the edge of the bed in the position for applying forceps, I gently pushed my right hand through the blockaded pelvis, into the uterus, and upward toward the fundus, passing the palm over the posterior aspect of the limbs, which were stretched upward at full length—thighs flexed, and legs extended; the feet reaching to the chin. With the patient snoring in profound unconsciousness, and complete relaxation existing everywhere else, the uterus was in strong tonic contraction, offering great resistance to the passage of the hand, and compelling me to proceed with caution lest I should injure its rigid tissues.

Toward the fundus of the womb my fingers encountered a constricted band of circular fibres embracing the child's neck and ankles, and dividing the uterus into two compartments, the upper and smaller one containing the head and feet, the lower and larger one the body and limbs. The cincture was not so close but that my fingers passed easily through it, yet was so narrow, that, drawing tighter with every pain, it prevented descent of the head and feet, thus frustrating all expulsive efforts. Circular contraction predominated throughout the lower compartment, which seemed to exert no expelling power, but held my hand and wrist in a grasp so vise-like that the fingers, passed over the feet, could not close upon them. In momentary expectation of a little relaxation, I kept the hand in place an hour and a half, then was forced very reluctantly to withdraw it, because under the long pressure it had lost both the power of motion and the sense of feeling.

After a brief respite, I again carried the same hand into the same position, and after some time, succeeded in liberating both feet and bringing the right one down to the mother's pubes. The grasp of the uterus was yet so close that I could not bring the left one with it, and in spite of great care the right foot came under the left limb, whence it required a long time to release it. Then my tired and numb fingers could not draw it under the pubic body.

Dr. Smith, relieving me, accomplished the delivery of the right foot, but so constricted was the space in which to work that he could not bring down the knee before his fingers cramped so that he, too, "lost his grip." At length, turning the patient on the right side, and drawing the foot directly backward over the relaxed perineum, thus extending the leg and straightening the knee, I with difficulty brought it through. Having thus gained a little room, the left limb was brought down with less trouble. The delivery of the body was accomplished slowly and by strong traction, as if the stricture above held the head as long as possible, yielding only when tired out. The right shoulder coming to the front and the occiput also under the pubes, the head was easily turned out, and our tedious task completed with the birth of a dead male child weighing ten pounds.

Had the head been liberated at the same time with the feet, then, after flexing the knees, the further expulsion might have been left to nature without the long and toilsome efforts to deliver both feet, but the difficulty with which the body was extracted satisfied us that nothing short of what was done would have sufficed. Post-partum retraction was complete, and the placenta promptly expelled.

The whole hand being within strong muscular walls, and the distance from the os to the fingers' ends being fully nine inches, proved that the constriction was far above the ring of Bandl, and their regular action seemed to be, not retraction due to obstructed labor, but rather, exaggerated circular contraction, itself constituting the obstruction, beginning early in the second stage of labor, involving nearly the entire organ, and, in the absence of distended membranes, becoming nearly complete at the point of least resistance, that is, around the child's neck.

This condition lasted about three hours under full anesthesia. In how far it may have been perpetuated by the stimulus of the hand in the uterus is not clear; but it certainly existed prior to its introduction. The life of the child was destroyed by the long arrest of the utero-placental circulation. Ordinarily, I would not continue the use of chloroform so long, but no such protracted anesthesia having been contemplated, I was not provided with ether; however, the pulse and respiration never faltered, and consciousness returned soon after the chloroform was withheld. Ergot, which is with me only a post-partum agent, had not been used, and quinine only in tonic, not in oxytocic quantity. The latter, in ten to fifteen grain doses, is my favorite parturient, the use of which, I believe, has lost me many opportunities to enlarge my experience with the forceps.

The next day I found the patient somewhat depressed, with pulse slow, temperature a little below normal, slight nausea, and decidedly cool extremities. On the third day, the pulse was 48, mouth temperature below 94° F., nausea increased, tongue heavily coated, countenance anxious, skin of a sickly yellow hue, and the urine (drawn with catheter) very dark and scanty, while the uterus reached above the umbilicus, and was very tender; the abdomen was quite tympanitic, and the lochia were entirely replaced by a thin, yellow, and very offensive discharge. There was at no time more than a slight attempt toward secretion of milk. These local symptoms were accompanied by great weakness and profuse perspiration. Under stimulants and tonics, attention to the secretions, turpentine externally, and thorough local disinfection, aided by good nursing, by the seventh day the pulse and temperature had reached 80 and 98 respectively, with corresponding abatement in all the bad symptoms, and from this time convalescence was slowly established.

FARADIC ELECTRICITY IN RIGIDITY OF OS UTERI
DURING LABOR.

BY

MARY PUTNAM JACOBI, M.D.

A PRIMIPARA was brought during a premature labor, occurring at seven months of pregnancy, to the N. Y. Infirmary in a state of considerable exhaustion resulting from the prolonged labor-pains. The external os was tetanically rigid. I did not see the patient until after she had been for some time in the hospital, and the physicians in charge, Drs. Blackwell and Cushier, had used all the most usual and approved means of relaxing the rigidity of the os, but without the slightest effect. Even chloroform had failed, and the increasing exhaustion of the patient rendered this method hazardous to be persisted in. It seemed to me that the tetanized condition of the os, which would barely admit the tip of a finger, and resisted manual dilatation to an extraordinary degree, was precisely due to the exhaustion of the nerve force destined to the uterine fibre. The tetanus would then be analogous to the intestinal cramps of lead colic; to those induced in both the rectum and the genital canal by compression of the aorta (in rabbits), or, on an even more general scale, to the universal muscular contractions of rigor mortis. If this were true, —and surely the clinical history of cases of rigid os uteri tends to support the hypothesis—local stimulation of the exhausted nerve fibres was indicated as the remedy. A small electrode was applied to the os, and connected with a faradic battery; the other electrode being held in the patient's hand. It was considered desirable to avoid passing the current through the body of the uterus, lest new contractions should be excited and struggle in vain against an impassable resistance. The application was continued for fifteen minutes. Immediately afterwards, and for the first time, Dr. Cushier succeeded in inserting a finger into the cervical canal, and after some further effort, in gradually effecting manual dilatation and delivering the patient by the forceps.

Stimulus to the nerve fibres thus seemed to have succeeded in inhibiting the spasm into which the muscular fibre had been thrown, as is habitual when left to its own irritability.

THE INFLUENCE OF SEX OF FETUS ON LENGTH OF INTER-
GESTATION PERIOD IMMEDIATELY FOLLOWING ITS
BIRTH.

BY

JOHN STOCKTON-HOUGH, M.D.

THE following are additional tables and facts (based on nearly a thousand observations), showing that the intergestation period between girls is shorter than it is between the birth of boys, and that girls (*first children*) are born sooner after marriage than boys (*first children*)—the whole forming a supplement to a paper recently published by the author, entitled “An Inquiry, Etc.”¹

Since the publication of the above-named paper, the author has been fortunate enough, through the untiring industry of his friend, Dr. A. C. W. Beecher, to have tabulated nearly one thousand observations on the length of the intergestation period by sexual differentiation, the deductions from which fully confirm the predictions already made in the paper above referred to.

In the compilation of these tables, genealogies were the only available source from which all the necessary dates could be obtained, and the “Genealogy of the Noble Family” presented these figures in the best form for our use.

Those families were selected which contained a fair proportion of both sexes, all those consisting only of boys, or only of girls, were excluded, as were also all instances of greater time than three years between births, as indicating illness, temporary separation, or as showing a certain amount of relative sterility. As families of exclusively boys or exclusively girls are exceptional, it is evident that separate tables should be constructed for each of these classes.

¹ “An Inquiry Concerning the Relative Influence of the Sex of the Fetus in Utero, on the Mental, Physical, Physiological, Pathological, and Developmental Condition of the Mother during Gestation, and of the Infant during Lactation, and Subsequently.” AMERICAN JOURN. OBSTET., New York, February, pp. 113-135; March, 248-263; May, 502-517; June, 602-622, 1884.

In the 982 births tabulated from the "Genealogy of the Noble Family," extending over a period of 200 years [1635-1835], we find that there are:

98 girls born as first children, 14 months and 14 days after marriage.									
103 boys	"	"	"	17	"	"	17	"	"
228 boys following the birth of boys at an average interval of 24 mo., 27 d.									
201	"	"	"	girls	"	"	"	24 mo., 16 d.	
196 girls	"	"	"	boys	"	"	"	24 mo., 3 d.	
156	"	"	"	girls	"	"	"	24 mo.	

In our paper referred to on the first page of this article, under Proposition 17, we have shown that the weight of a child at birth is influenced by the sex of the child which immediately preceded it, as may be seen from the following, elaborated out of Wernich. When a

Boy follows a boy he weighs on an average 3,430 grams.									
"	"	girl	"	"	"	"	3,383	"	
Girl	"	"	she	"	"	"	3,272	"	
"	"	boy	"	"	"	"	3,253	"	
Boy precedes	"	he	"	"	"	"	3,424	"	
"	"	girl	"	"	"	"	3,372	"	
Girl	"	"	she	"	"	"	3,266	"	
"	"	boy	"	"	"	"	3,200	"	

By combining these tables, we have:

Boys follow boys at intervals of 24 mo., 17 d., and weigh 3,430 gms.									
"	"	girls	"	"	24	"	16	"	"
Girls	"	boys	"	"	24	"	3	"	"
"	"	girls	"	"	24	"	"	"	"

The proportion of sexes in births was as follows:

First children, 103 boys and 98 girls, or 105 boys to 100 girls.									
All pregnancies, 532	"	"	450	"	"	118	"	"	100

This table shows that eleven per cent more girls are born in illegitimate pregnancies than in all the pregnancies combined.

It is a well-known fact that the proportion of girls in illegitimate children is always greater than among those born in wedlock, which may be accounted for in a great degree by their being for the most part first children, and of young mothers—though Schramm has shown from observations based on 1,050 cases, that of *old* primiparæ, the proportion of males among first children was greater than in births in general, viz., 124 boys to 100 girls, while births in general gave a proportion of only 107 boys to 100 girls.

Table Showing the Mean Time between Births, also the Mean Time between a Birth and the Next Succeeding Conception, According to the Sex of the Preceding and Succeeding Fetus, and the Number of the Pregnancy.

[Families of all boys or all girls excluded, as also any case of greater time than three years between births. 982 Obs. from the "Noble Genealogy," 17th and 18th centuries, average of about seven children to each family.]

ORDER OF SEXUAL DIFFERENTIATION.	FROM BIRTH OF BOY TO BIRTH OF BOY		FROM BIRTH OF GIRL TO BIRTH OF BOY		FROM BIRTH OF BOY TO BIRTH OF GIRL		FROM BIRTH OF GIRL TO BIRTH OF GIRL	
	M'ths.	Days.	M'ths.	Days.	M'ths.	Days.	M'ths.	Days.
Order & No. Preg.								
From 1st to 2d b'th								
" 2d to 3d "								
Continuing in the same manner to the 20th.								
Series of 50 observations from each category, showing the uniformity of the result.	24	24	25	20	25	1	24	12
	24	25	25	2	25	2	25	2
	24	4	24	9	22	5	24	27
	26	2	23	19	24	6	20	19
Total all Pregnant.	24	27	24	16	24	3	24	00

MEAN INTERGESTATION PERIOD. [By subtr. 9 mos.]	FROM BIRTH OF BOY TO CONCEPT. OF BOY		FROM BIRTH OF GIRL TO CONCEPT. OF BOY		FROM BIRTH OF BOY TO CONCEPT. OF GIRL		FROM BIRTH OF GIRL TO CONCEPT. OF GIRL	
	15	27	15	16	15	3	15	..
	483 days.		472 days.		459 days.		456 days.	
Corrected for week shorter durat. gestat. with girls.	483	“	472	“	466	“	463	“
Each category in the order of frequency	228 births.		201 births.		196 births.		156 births.	
Total No. observa.	982 observations in all.							

From Marriage to Conception and Birth of First Children by Sexes.

Mean time from marriage								
To the birth	of the first child when a girl (98 obs.),	14 mos.	14 days.					
" conception	" " " " " "	5 mos.	14 days.					
" birth	" " " " boy (103 obs.),	17 mos.	17 days.					
" conception	" " " " " "	8 mos.	17 days.					

Hence those women who bore girls in their first pregnancies conceived 3 mos. and 3 days sooner after marriage than those who gave birth to boys, corresponding with the greater rapidity with which girls follow girls, as compared with any other order or combination of the sexes.

Ansell's table,¹ based on 25,000 observations (all pregnancies) gives the average time between marriage and the birth of the first child as 1.32 years (nearly 16 months). In another table, based on 6,035 observations corrected for still-births and twins, he has shown that "the mean interval between marriage and the birth of the first child is nearly sixteen months." It will be interesting to compare our table with the above. We found that

From marriage to birth of girl was	14 mos.	14 days.
" " " " " boy	17 mos.	17 days.
	<hr/>	
	31 mos.	31 days.
Average both sexes.....	16 mos.	

This average of 16 mos. is almost exactly the same as found by Ansell, based on a large number of cases among women in another country.

From an examination of those cases (among the 982 observed) where the interval between marriage and the birth of the first child and the interval between subsequent birth was less than nine months (the usual period of utero gestation), we find that, following the rule already determined for the general averages, viz., where a child is born in less than nine months after marriage, the girls are on an average born in eight months, and the boys in eight and one-half months after marriage—the difference in the period of gestation with the female sex, as compared with the male, being about a week ($8\frac{1}{2}$ days), which corresponds with the difference for normal periods, as shown in our paper, "An Inquiry, etc.," as may be seen from the following:

¹ Duncan: "On Sterility in Woman." London Lancet, Feb. 24th et seq., 1883.

Time of Marriage to the Birth of First Child.

(Abnormally short.)

GIRLS.			BOYS.		
8 months	27 days.		8 months	20 days.	
8	" 28	"	7	" 11	"
6	" 4	"	8	" 26	"
8	" 6	"	7	" 20	"
8	" 20	"	8	" 24	"
8	" 28	"	8	" 23	"
8	" 3	"	8	" 16	"
6	" 24	"			
8	" 24	"			
7	" 13	"			
7	" 12	"			

Average, 8 months.

Average, 8 months 8½ days.

Baust,¹ in his tables, found that boys were carried seven days longer than girls; all of which tends to confirm the generally received opinion, that males are carried longer than females. Among bees this difference is further illustrated in a marked and invariable manner—queens arriving at perfect development in 16 to 18 days; workers (imperfect females), in 21 to 23 days; and drones (males), in 24 to 26 days.

Among the 201 first children, in only one instance (a boy), did the birth take place exactly 9 months after marriage.

A woman had a girl born 10 months and 11 days after marriage, followed by another girl in 11 months 28 days, this followed by a third girl in 11 months 28 days; then a boy in 20 months 7 days; then a girl in 16 months 27 days; then a boy in 40 months 11 days.

A mother of 10 children gave birth to her first child (a boy) 8 months 23 days after marriage; her eighth child (a girl) was born 9 months 5 days after the seventh (a boy).

The average interval between the birth of her 10 children was 18 months 20 days.

In one case, a boy followed a boy in 11 months 1 day.

" " " " " " " " " 10 " 13 days.

av. 10 months 22 days.

" " " " girl " " " in 9 " 5 "

" " " " " " " " 10 " 1 day.

" " " " " " " " 8 " 0 "

" " " " " " " " 7 " 1 "

av. 8 months 17 days.

¹ " Willkürliche Zeugung." Stuttgart, 1870, p. 50.

In all these cases, it is fair to presume that the children were born alive, as they were *named*; whether they were premature we had no means of knowing; and how long they lived was not noted by the compiler, even where it was stated.

Notwithstanding the fact here shown, that when one gestation follows another with the average degree of frequency and under normal conditions, the intergestation period is longer between the birth of boys (one following another) than between girls; yet the investigations of Kleinwächter¹ made it appear that where the intergestation period is *unusually long*, the proportion of girls to boys greatly preponderates over the usual proportion among the births occurring at the average ordinary interval in the same place. As no mention is made of the sex of the *preceding* birth, this observation has little value for purposes of comparison with our statistics. I introduce it simply as an observation on the influence of an unusually long intergestation period on the sex, weight, length, etc., of the succeeding child.

We have tabulated Kleinwächter's material with the following result:

Duration of Inter- gestation period (years).	<div> <div>1</div> <div>2</div> <div>3</div> <div>4</div> <div>5</div> <div>6</div> <div>7</div> <div>8</div> <div>9</div> <div>10</div> <div>11</div> <div>12</div> <div>13</div> <div>14</div> <div>15</div> <div>16</div> </div>															
Number of Women.	34	105	88	41	33	26	22	15	6	9	5	5	2	1	2	1

It reads as follows: Of 395 child-bearing women, 34 had an intergestation period of 1 year, 105 had an intergestation period of 2 years, etc., between the birth of the first child and the conception of the second.

Kleinwächter divides these cases into two groups: the first, intergestation period from 1 to 5 years [301] (average age 26.7 years); the second, 6 to 16 years [94], average age 31.1 years. Those having a greater intergestation period than 10 years have an average age of 34.28 years.

Intergestation period from:

¹ Kleinwächter: "Der Einfluss der Dauer der Geburtspause auf die Geburt der Zweitgeschwängerten." Zeitschr. f. Geburtsh. u. Gynäkol., XI. Bd., pp. 221-237.

1 to 5 years,	167 boys and 138 girls, or 121 boys to 100 girls.
6 " 16 "	99 " " 50 " " 98 " " 100 "
10 " 16 "	12 " " 15 " " 80 " " 100 "
1 " 5 "	242 births; weight, 3,284.50 grams; length, 50.91 cms.
6 " 16 "	73 " " 3,296.11 " " 52.51 "
1 " 5 "	301 " 4 cases of twins, or 1.32 per cent.
6 " 16 "	60 " 5 " " 5.31 " "
1 " 5 "	301 " 5 " " malformation 1.66 per cent.
6 " 16 "	94 " 6 " " 6.38 " "
1 " 5 "	305 " 4 " " stillbirths 1.31 " "
6 " 16 "	99 " 10 " " 10.10 " "
1 " 5 "	208 " Duration of labor, 9.99 hours.
6 " 16 "	60 " " " " 12.03 "

From an examination of 74 cases of extrauterine gestation, Dr. Parry¹ found that these women had not previously conceived in periods varying from 5 to 18 years; and of these 74 children, 41 were boys, and 33 girls (124:100).

In seeking for an explanation of the greater rapidity with which girls succeed girls, as compared with boys following boys, we are disposed to attribute this disparity to two causes: First: *The part of the woman* in the begetting of males is a higher (developmentally), more difficult, and as we have shown in the paper referred to, a more tedious (duration of gestation longer) rôle. Second: We have also shown, *loc. cit.*, that gestation with a female fetus arrests to a greater degree the growth and development of the female parent, and determines in her a genetic (child-bearing) tendency, which is antagonistic to growth and development. The woman is thus put in a physical condition in which she is more prone to conceive than the condition in which she is left after the birth of a boy. The sooner she conceives after having given birth, the less she has recovered from the physical exhaustion of her previous gestation and lactation, and consequently she is more likely to conceive of a female than of a male, the latter being more difficult and requires a better physical condition.

Under the influence of feebleness, degeneracy, or disease, each sex tends to produce a larger proportion of offspring of its own sex.

¹ "Extrauterine Gestation." 8vo., Philadelphia, 1876, p. 82.

A CASE OF REMOVAL OF TWO SESSILE CERVICAL FIBROID
TUMORS BY ABDOMINAL SECTION.

BY

HOWARD A. KELLY, M.D.,

Philadelphia, Pa.

THE subject of the following history belonged to a class of cases universally considered as beyond the reach of any radical cure.

I believe, however, that the combination of methods here employed will in the future find repeated application in the occasionally occurring desperate cases of the same nature.

Outline.—Mrs. K. was for many years a sufferer from all the miseries entailed by two fibroid tumors situated upon the cervix uteri.

She was for a long time under the treatment of prominent gynecologists in Germany and America.

When I saw her she had become utterly wretched and despondent from her constant suffering, and frequently expressed suicidal intentions. And while she was under my care, either the growth of the tumors, or an increase in an extensive retro-uterine cellu-litic deposit so completely choked both rectum and bladder, that it seemed impossible for her to continue to live. I opened the belly, and removed the tumors by *écrasement*. The free hemorrhage following the operation was checked by a thorough cauterization of the bases; and by systematic washings through a large drainage-tube the pelvis was kept clean and free of any accumulating *débris*, and the patient promptly made a perfect and very happy recovery.

History.—J. K. is German, 40 years of age, and has been fifteen years married, and twice pregnant. In her first pregnancy, previous to marriage, she was delivered of a male child, still living; in her second, she fell down-stairs in the seventh month and miscarried in the eighth month, the child being removed instrumentally by Prof. Goodell at the Preston Retreat.

Her memory is excellent as to all the incidents of her life.

From eighteen to twenty years of age she was chlorotic. She menstruated for the first time at twenty, when she suffered severe cramps. She “caught cold,” and did not menstruate again for a year and a half. Upon the return of the menses she was regular as to time, but suffered severely from cramps, pain in the back, and headache, until her pregnancy in 1868.

Three months after the miscarriage in 1871, she flooded, and

Prof. Goodell tented the uterus and scraped; she was then regular and normal for three months, when the floodings again returned, confining her to bed many weeks, until, in 1874, she returned to Germany, where an operation was performed, removing a fleshy mass; after this she was well for a year.

In 1876, Dr. Zeller, of Strassburg, dilated the cervix and found a tumor which he proposed to remove, but after the dilatation she was well for a year.

In March, 1877, her old trouble returned with cramps, dysuria, and hemorrhages. She then came under the care of a professor, whose name she has forgotten, who lectured upon her, stating that there was a tumor as big as a goose's egg connected with the uterus, but in such a situation that any operative interference would be fatal.

He put her upon a course of treatment, however, which gave her perfect relief for three years.

In February, 1881, her troubles came back upon her with renewed virulence, and through protracted hemorrhages, lasting from two to three weeks at a time, and constant suffering she lost eighty-five pounds weight.

In the following May she went to the clinic of Prof. Freund, in Strassburg, who, after putting her through a course of preparatory treatment and making a thorough examination, refused to operate. She was discharged in July much improved, and returned to America in September.

In 1882, with the return of hemorrhages, severe pains, and fever, she was kept for many weeks in bed, continuing miserable, and under the treatment of indifferent men, with pessaries, cataplasms, pop-gun tubular specula, etc., until in 1884 she went to the Jefferson College Hospital, of this city, where she remained a month.

In April, she came to me, when I told her she was suffering from fibroid tumors of the neck of the womb.

She then went to the University Hospital, where she was examined and presented for admission by Dr. Baer.

Prof. Goodell made a careful examination, and told her that the dangers of operating were so great "that he might as well cut her throat at once."

She returned to me in June, and has since that time remained under my care.

She was then suffering from long protracted hemorrhages and cramps which I was unable to relieve. She frequently said she would kill herself, and begged me to operate, as she did not care whether she lived or died. By bimanual examination the pelvic organs were readily mapped out, and the uterus above the os internum felt about normal in size and freely movable. Its canal, including the cervix, measured three inches.

The cervix, however, was immovably impacted in the pelvis between pubis and sacrum, by several hard, irregular masses. Posteriorly, a large, dense mass completely enveloped and con-

stricted the rectum, immediately above the pouch, into a diminutive tube scarcely admitting the tip of the little finger.

To the right side was a tumor about the size of a hen's egg filling out the broad ligament, and anterior to the cervix lay another tumor of about the same size. None of these growths projected into the vaginal vault, nor was the idea of removing them per vaginam at any time entertained.

Her sufferings from dysuria and rectal tenesmus increased from week to week. She had several profuse hemorrhages from the bowel, and finally her distressed desire to pass something would compel her sit on the vessel straining for hours at a time.

On Saturday, September 6th, 1884, I operated in the presence of Drs. B. A. Randall, Wm. R. Cruice, A. K. Minich, J. M. Anders, Jas. Van Buskirk, T. S. K. Morton, and E. F. Walsh, being assisted directly by Dr. Jos. Price.

The incision was exploratory, with the intention of giving relief, by any possible method, to the occlusion of the urethra and bowel; and in case of the utter impossibility of any procedure to this effect, my intention was to remove the uterine appendages, hoping that she would survive long enough to be permanently benefited by the operation.

The room was thoroughly cleansed and bared of all but the few articles of furniture absolutely necessary. A two-per-cent solution of carbolic acid was used for instruments, hands, and sponges.

She took the ether at first with great difficulty, and so was anesthetized with chloroform, and the anesthesia kept up with ether.

Several times during the operation her pulse dwindled away, and completely failed at the radial, when Dr. Cruice revived her by hypodermics of ether.

The incision extended through fat belly walls, from umbilicus to within two inches of the pubis. The most serious difficulty encountered throughout the whole operation was the powerful use she made of her recti muscles during respiration. As soon as the hand entered the peritoneum the wrist was grasped like a vice by the rigid recti, and this was but partially obviated by elevating the shoulders and flexing the thighs, and keeping up profound anesthesia.

While Dr. Price forcibly stretched the muscles, I examined the free healthy uterine body, felt a cyst as big as a walnut in the right broad ligament, and readily determined the mass enveloping the rectum to be an extensive cellulitic deposit.

The other masses were clearly felt to be broad-based flat cervical fibroids, deep down in the areolar tissue, the anterior tumor but slightly elevating the peritoneum at its vesico-uterine reflection. The lateral tumor, in the right broad ligament, was wedged in between the tumor anteriorly, and the solid deposit behind, and the bony wall of the pelvis at its outer side.

I tried by bimanual manipulation to raise the uterus with the tumors into view, and determine, if possible, some ready method of attacking them, but they were immovably anchored.

I then incised the peritoneum, and without much difficulty stripped it with my fingers from the anterior tumor, and grasping the now naked tumor with a volsella forceps, Dr. Price made firm traction upwards, until I succeeded in working well down and all around its base, and slipping the loop wire of a Hicks' écraseur over the forceps, I grasped the growth, and by tightening the wire, gradually tore it loose from its base.

The lateral tumor was treated in the same way, but, owing to the peculiarity of its position, only half of it was grasped and removed. The free hemorrhage following both these removals was entirely checked by thorough cauterization with Paquelin's cautery button.

This step in the operation was very difficult, as the application was made deep down in the pelvis with the fingers of the other hand acting as a guide and funnel to protect the surrounding parts. Her constant straining had probably caused the subacute peritonitis which was evident, the peritoneum of the whole abdomen being deep red in color, and rough and villous in appearance.

The toilet was made with great care, and the abdominal wound closed by silver sutures, leaving a curved drainage tube, one-half inch in diameter, at the lower angle, draining the retro-uterine cul-de-sac. The tube was plugged, and the whole covered with carbolized gauze and cotton.

The operation lasted one and a half hours. She was ether-crazy all the following night, and for a week had a most distressing, irrepressible dry cough; with this exception she was perfectly comfortable, and made a rapid recovery. She was allowed sips of cold tea for the first twenty-four hours after the operation, and after that milk and beef-tea.

The stitches were all removed on the sixth day. The dressings were changed daily. The morning following operation they were saturated with a bloody serum, and of a strongly ammoniacal odor.

I attach the utmost importance to her subsequent treatment, which consisted in a thorough daily irrigation of the pelvis by means of a gravity syringe and three feet of rubber tube, one end of which passed down below the deep end of the drainage-tube, a little withdrawn.

By this means from half to three-quarters of a pint of warm, weak carbolized water was douched into the pelvis, invariably bringing away in a gentle current flakes of lymph and one or more ounces of pus. The subjective relief afforded by the procedure was immediate and very great. I omitted the washing one day and she was uncomfortable all the following night, restless and chilly at times, with flushes and sweats, and a sense of weight in the belly. Her douche the next morning relieved her at once.

On the second and third days the washings were stinking, and after that sweet.

On the tenth day she sent for me in great pain, and I found

her crying with a severe burning in the left groin. Suspecting the drainage-tube, I removed it, and she was relieved.

After this she was irrepresible, getting out of bed the same afternoon and combing her hair.

On the fifteenth day after the operation, she left the house and visited a neighbor, and on the seventeenth day walked a mile without inconvenience.

A small loop of wire, which was accidentally left at the lower angle of the incision, occasioned an abscess twenty days after.

Her menses have been gentle and natural, and the notes of an examination made in the office four months later, state that the only perceptible trace of the tumor is, anteriorly a slight fulness of the supra-vaginal cervix, and a small node of induration in the right broad ligament.

The cellulitis had completely melted down into a softish mass between the utero-sacral ligaments, unconnected with the now freely movable cervix. She uses but two or three napkins throughout the whole menstrual period, which lasts but three days, and she declares that she is perfectly well.

Besides the method of removal, the writer thinks that there are two factors in the treatment of this case which might with advantage be more extensively employed. The free use of the cautery deep down in the pelvis, guided by an accurate topographical knowledge of the anatomy of the parts, was one of the chief elements of success, as owing to the position and nature of the tissue no ligatures could possibly have been applied. Again, the full value of the drainage-tube is certainly far from being appreciated by the majority of operators. There seems to be a lack of any precise idea as to just when it ought to be used, and in particular as to just what it will accomplish when used.

It ought never to be inserted simply with a view of leaving a convenient hole at the lower angle of the incision for the overflow of discharges accumulating in the pelvis.

A tube six or seven inches in length is expected to drain a cavity vertically the same distance below it. The bare statement exposes the absurdity of the practice. How many of the heavier decomposing flakes of lymph or shreds of tissue will ever reach the top under such an arrangement?

There is little wonder that one prominent gynecologist, with "drainage" of this sort in view, expresses his preference for vaginal oöphorectomy, and when he fails in finding the ovary, he resorts to abdominal section, leaving the dependent vaginal

opening for subsequent drainage. If a case requires drainage at all, it requires thorough and efficient drainage, which can only be obtained by systematically washing out the pelvis, through the tube, from the very bottom.

The perfect safety of the practice lies in the fact that in irrigating the pelvis the fluid does not tend to pass up into the rest of the peritoneal cavity, and as soon as a suppurating area is established, the drainage area becomes separate, and forms a closed sac.

Note, Dec. 8th, 1885.—I examined Mrs. K. to-day. She has had no hemorrhage since the operation. There is absolutely no trace either of the posterior mass or the anterior tumor. A small node in the right broad ligament indicates the position of the other tumor. The examination is wonderfully facilitated by a stretching of the scar and a ventral hernia, which she says developed in the spring following the operation from hard labor. It is perfectly controlled by a truss.—H. A. K.

113 E. CUMBERLAND STREET.

A CASE OF UTERINE FIBROID COMPLICATING LABOR;
CRANIOTOMY; DEATH.

BY

C. A. KIRKLEY, M.D.,

Toledo, Ohio.

(With cut.)

Nov. 1st, 1884, Mrs. K. engaged me to attend her in her confinement which she expected to occur about the 15th of that month. She was born in Ireland, was 35 years old, frail-looking, dark complexion, and had been married about one year. She had never been seriously sick, though at each menstrual period for four or five years she had had more or less pain. She dreaded her approaching labor, and feared that she would never get through it.

On the morning of Nov. 7th, slight pains began, but there being no dilatation of the os, a quarter-grain dose of morphia was given, after which she had little or no pain until evening, when the dose was repeated. The case so progressed until the morn-

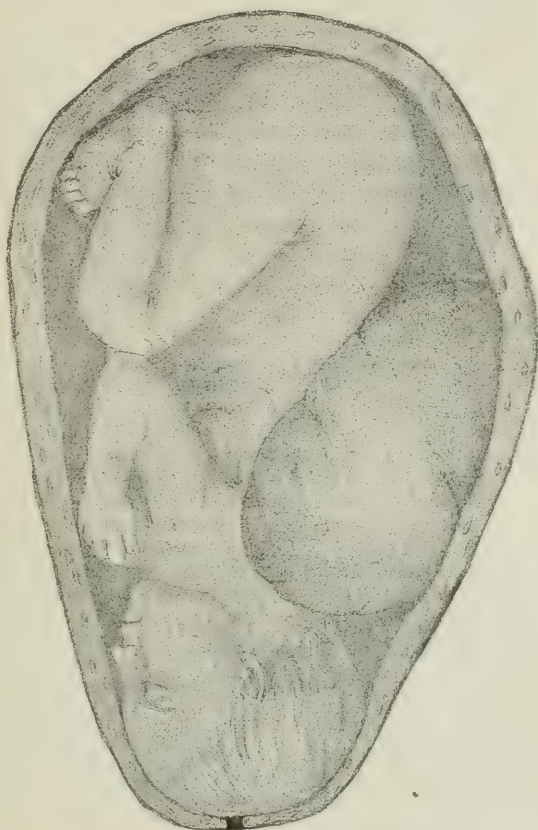
ing of the 10th, when the os was dilated so that it was about three-quarters of an inch in diameter. The pains were of short duration, irritable, and recurred at long intervals. The vertex presented R. O. A. position. In the evening, the os was slightly increased in diameter and dilatable, the pains recurring every five minutes, and being of longer duration. The head having made no progress, and the patient showing signs of exhaustion, it was evident that delivery should be accomplished as soon as possible. Dr. Collamore was therefore called in consultation. The A. C. E. mixture was given, and the forceps applied without difficulty. Traction was made with each pain for more than an hour, without advancing the head in the least. Dr. Collamore tried as long and as hard, without producing the slightest effect. On the morning of the 11th, Dr. Jones was called in consultation, and after satisfying himself that delivery could not be accomplished by the forceps, turning was determined upon, and Dr. Collamore accordingly attempted to bring down the feet. His left hand was introduced with considerable difficulty, and one foot found, but search for the other was in vain. Failing to accomplish turning, both Dr. Jones and myself made the attempt without changing the position of the child in the least. Craniotomy was now determined upon, and performed at once; and after removing the brain and cranial bones, it was just as impossible to deliver as before. In attempting to pass his right hand, Dr. Collamore came in contact with something resembling another head, pressing firmly against the neck and between the shoulders of the child. It was perfectly immovable, and completely wedged the body of the child within the cavity of the uterus, thus preventing its escape. Dr. Reed was now called in consultation, who applied the lion-tooth forceps, and Dr. Collamore assisting by getting hold of the spinal column, they together succeeded in delivering the body of the child, after hard work for nearly an hour.

Dr. Reed inserted his hand to deliver the placenta, which was attached to the fundus, and came in contact with a fibroid tumor, which almost filled the cavity of the uterus. Its attachment was broad, extending from the lower part of the body of the uterus nearly to the fundus. There was no unusual hemorrhage after delivery, which was finally accomplished on the night of the 11th. The patient partially rallied and improved slightly up to noon on the 12th, when she began to sink, and died about nine o'clock in the evening. Friends would not allow an autopsy.

The tumor was about as large as a child's head at term, which it resembled in shape and to the touch; and the pedicle, though it had a broad attachment, resembled the neck of a child as far as it could be felt.

Had the presence of the fibroid in this case been known, the result might have been different. It was not even suspected until after delivery of the body. In its general character it so

much resembled a child's head, that the only impression that prevailed was, that we were dealing with a monstrosity of some kind, or a twin birth. Had the condition been known, the Cesarean section would have afforded the patient a better chance of recovery had she been allowed to go to full term. I had no knowledge whatever of the patient until engaged to



attend her in labor. The tumor, attached as it was to the side of the uterus, would have offered no impediment to the Cesarean section. The object sought by craniotomy was that force might be more directly applied to the child's body. The usual indications for performing that almost always unjustifiable operation did not exist, that is, the pelvis was normal, and the child's head was not too large; but owing to the condition of

the patient when it was decided upon, and the natural obstruction from resistance of the soft parts, it was concluded the best thing to do.

It is singular that the natural function of the uterus could be performed under such unfavorable circumstances.

I am indebted to Dr. H. D. Babcock, of South Toledo, for the accompanying cut, and to my office pupil, Mr. Albert S. Waite, for making some changes and reducing it in size. The neck of the child was pressed much nearer the uterine wall on the right side than is shown in the cut, thus making the space for the escape of the body very narrow. When traction was made, the position of the tumor would so change as to completely wedge the body of the child within the cavity of the uterus.

CORRESPONDENCE.

"CONTROLLING SEX IN GENERATION."

EDITOR AMERICAN JOURNAL OF OBSTETRICS.

SIR:—As the author of the book bearing the above title, criticised in your September number, permit me to enter an exception to that part of the criticism which refers to the final chapter—the one that proposes a theory to account for the action of the physical law enunciated in the previous chapters. I ask this privilege with confidence, because your critic propounds several questions to me, which he assumes must be answered in the affirmative, contrary to the general drift of the chapter, and certainly contrary to my own opinion on the subject. And should I remain silent, your readers would rightly assume I assent to the answers he makes for me.

His attempted *résumé* of my theory as presented in this last chapter does not clearly set it forth. He seems to base his remarks on the assumption that the electricity generated in animal bodies by the mechanical and chemical action of the internal organs, freely passes off at once by mere contact with another body, while this is not so. The skin being an inferior conductor of electricity, that fluid may be accumulated in the body to some extent, even when it is in contact with another body; sufficient

to present the phase of electric attraction, and yet without an electric discharge. From this erroneous *résumé*, he draws false inferences, and suggests conclusions that are not legitimate; assuming them to be true from other circumstances I mention. It is these inferences and conclusions he specially condemns, and to this method I take exception.

Rightly stated, the hypothesis presented in this final chapter is—First, that in the process of reproduction, both in the vegetable and animal creation, during the secretion of the male and female products, an electric condition is evolved, positive in the male, negative in the female (whether as a cause of the secretion or an effect does not now matter); that the attraction due to these two diverse electric conditions brings together the sexual products of the insensible plant, and is the influence we denominate sexual desire which draws together at fitting times the more highly organized animal. Secondly, that later and by the sexual act that results in the discharge of the reproductive products and the fecundation of the ovum, this electric excitation in animals is increased beyond the power of the bodies to retain, and is also concurrently discharged, thus ending the attractive influence. That the parent most strongly charged at such time controls the condition, and produces in the embryo by induction the opposite electric state—it then being a body electrically foreign to both parents, and susceptible to this inductive influence. So that if the mother is most intensely charged, the embryo will be in a positive state and develop a male, if the father controls, it will be in the negative, and develop a female.

Your critic says this theory is visionary. But that may also be said of the theory of the transmission of light or of the evolution of species, in that neither can be practically proved to be true. The only question is—Is it reasonable and sufficient to account for the phenomena? Circumstances going to show the probability of these electric conditions existing in the parents at times of procreation are cited, among them the acidity of the menstrual discharge and the alkaline condition of the male secretion, as indications that the organs from which they proceed are likely to be relatively negative and positive, those being the chemical conditions always found corresponding to these electric conditions.

It is incomprehensible to me, and I think would be to the readers of your JOURNAL who are familiar with electric phenomena, how the citation by me of these facts in my book and the train of argument therefrom could lead your critic to write: "We ask him [the author] if he is prepared to say that impregnation takes

place immediately on sexual contact?" And after quoting the paragraph about the acidity of the menstrual discharge to show that I do so think, further asks: "What has the acidity of the menstrual discharge to do with the reaction of [on?] the ovum? etc., etc.,—going on to a very unpleasant conclusion, but one entirely unwarranted by any word or sentence in my book.

To the first question, I answer—No! not with human beings at least, though there are many orders in creation where it does. To the second question I answer—It has nothing to do with it; but surely the critic does not hold that there is no relation, such as may be inferred from my argument, between the secretion named and the development of the ovum. As to his third question, I may say—There are some things that men of mature years are fairly presumed to know, and to question their knowledge by doubting inquiries indicates rather lack of judgment in the querist than ignorance in the men.

There is scarcely a new theory advanced on any occult subject but may in this way be turned into ridicule. The theory of evolution was for years a butt for sarcasm, not because it was illogical or unscientific, but because of the unfair and disingenuous inferences that seemed so easily drawn, as it were, from the surface.

I may say, however, that the critic has made more of the ideas in this last chapter than is made of them in the book, where they are presented as a hypothesis that might account for the influences found practically to exist in the reproduction of sex, as presented in the previous chapters, and it is to these that the general reader's attention was more directed. To most men, when the food satisfies their hunger and re-enforces their strength, they care but little to inquire into the processes of digestion.

Thoroughly believing that I had after long research discovered the law that controls sex, and which I proved in a limited way to my own satisfaction, I published my book that others might test it. It has met with a large acceptance among those who have made the subject a study. An editor of a journal devoted to the breeding and management of domestic cattle, when criticising the principle, writes: "This throwing of the sex to the side of the weaker parent seems to be one of the allwise provisions of nature in maintaining the equilibrium of the sexes. By this law, which we may call the law of the opposites, the side of the weak is constantly strengthened from the side of the strong. The trend of observation and facts seems to be wholly in the direction of this principle in nature, but we prefer to accept it as a law on the grounds of its wisdom and beneficence rather than on the grounds

of all the observations that ever have been or ever will be made."

I am not specially concerned about the theory advanced in the closing chapter except that I wish to see it met by a fair criticism on its argument, and not on erroneous inferences. If any one has a more reasonable theory to advance, one that will better account for the phenomena, I shall willingly accept it and let mine die. But till there is one (and I know of no other), I wish courteously to defend this as consistent and sufficient to account for nature's action in this matter.

In conclusion I ask your readers to correct with ink the typographic errors in several places in the criticism—September number, pp. 994-995, and in the index, p. 9—which gives my name Ferry instead of Terry. Your valuable JOURNAL is, no doubt, generally preserved, and one does not like to go down to future years under a wrong name.

SAMUEL HOUGH TERRY.

AIKEN, S. C., November, 1885.

TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF NEW YORK.

REPORTED BY THE SECRETARY, DR. H. C. COE.

Stated Meeting, November 3d, 1885.

The President, DR. PAUL F. MUNDÉ, in the Chair.

DERMOID CYSTS OF BOTH OVARIES, WITH A DIVERTICULUM EXTENDING INTO THE RECTUM—OPERATION—RECOVERY.

DR. JANVRIN showed the specimen, and narrated the history (see page 13).

DR. HUNTER thought that a similar case had been reported about two years before.

DR. LEE agreed perfectly with Dr. Janvrin in his explanation of the process of inclusion of the diverticulum. He said that he was especially interested in the statement that the tear in the rectal wall healed so perfectly, although it was situated within the peritoneal cavity. He cited in this connection a case that he had observed in Charity Hospital, in which an attempt was made to dilate, by Simon's method, a syphilitic stricture of the rectum. A tear, at least three inches long, occurred in the rectal wall, opening into the peritoneal cavity. The patient was turned upon the side, the rent was exposed by means of a Sims speculum, it was sewed up with catgut, and recovery was perfect.

The PRESIDENT asked what the exact location of the tear was in the last case.

DR. LEE replied that it was at a point fully four inches from the anus.

DR. T. A. EMMET stated that he once had a patient with a pelvic tumor, who passed a quantity of hair and sebaceous matter *per rectum*, after which the tumor entirely disappeared.

THE PRESIDENT thought that it was not very rare for a cyst to discharge its contents through the rectum. He recalled a case which Dr. Emmet had seen with him, in which a colloid cyst ulcerated through into both the rectum and the vagina.

DR. COE said that, on referring to the literature of the subject, he had found that the simultaneous occurrence of a dermoid cyst in both ovaries was quite rare. It was not so rare to meet with cases in which such cysts had ulcerated into the vagina, rectum, bladder, or even through the abdominal wall.¹

DR. CURRIER (present by invitation) stated that the protrusion of hair from the anus was noticed by the patient nine years before the operation.

A SPECIMEN OF CYSTIC OVARIES, WITH PYO-SALPINX, REMOVED BY
LAPAROTOMY—RECOVERY.

DR. JANVRIN showed the specimens, which he had removed five days before at St. Elizabeth's Hospital. The patient was an unmarried woman, 40 years of age, who had been under treatment in the Woman's Hospital two years before, where an operation had been advised. She complained of constant pain in the right side. On examining her at that time, Dr. Janvrin thought that he detected a slight enlargement of the right tube. She was also suffering from endometritis. She returned home and was treated by her own physician for the endometritis. She returned in June and reported that on two occasions during the winter she had had a discharge of acrid pus from the vagina, about a week before her monthly period. She also suffered with pain in the left side similar to that on the right. She was urged to have an operation early in the fall. Two weeks before, the speaker again saw her and learned that during the summer another discharge of pus had occurred. She finally consented to the operation, which was performed without difficulty, no adhesions being present. Contrary to the indications afforded by the vaginal examination, the left ovary and tube were found to be most diseased. The patient was doing perfectly well.

DR. LEE thought, as did Dr. Janvrin, that the natural inference was that the discharge of pus was due to salpingitis, rather than to purulent endometritis. He believed that if, in addition to the purulent discharge, there was severe dysmenorrhea and positive evidence of enlargement of the tubes and ovaries, laparotomy was entirely justifiable, since, as far as his experience went, palliative treatment was useless.

DR. JANVRIN said that he had watched his case carefully and had felt almost certain of the diagnosis before operating.

¹ Olshausen, "Krankheiten der Ovarien," chap. xlii.

DR. T. A. EMMET asked for a general expression of opinion as to the occurrence of pyo-salpinx in unmarried women. He said that he had never met with a case except in married women whose husbands had strictures.

THE PRESIDENT asked Dr. Janvrin if his patient was a virgin.

DR. JANVRIN replied that, as far as a rigid, intact hymen was any indication, she was.

DR. HUNTER said that he had presented two undoubted specimens of pyo-salpinx during the previous winter, which he had removed from virgins.

DR. LEE remarked that ten days before he had removed an ovary and tube from a virgin. The condition was not true pyo-salpinx, but the tube contained several drops of muco-purulent fluid, indicating a state of inflammation which would doubtless have culminated in pyo-salpinx.

THE PRESIDENT said that the views of Dr. Noeggerath concerning the direct relation between gonorrhea and pyo-salpinx were gaining ground, and the question was whether his followers were not going to extremes.

DR. LEE agreed with Dr. Emmet that in the latter's cases it was proper to draw the inference that the salpingitis was due to gonorrhea; but there did not seem to be any reason why a purulent inflammation of the tubes could not arise independently of a previous gonorrheal infection.

A SPECIMEN OF EXTRAUTERINE PREGNANCY.

DR. LEE presented a specimen of probable tubal pregnancy, which was removed post-mortem by Dr. Maher. The doctor was called in haste to see the patient, and found her in a state of collapse, with every evidence of internal hemorrhage. She died within half an hour. On opening the abdomen, a large quantity of coagulated blood escaped, together with a four-months' fetus. The specimen was shown because it seemed to the speaker to be a very beautiful one. [Photographs of the specimen were also presented.]

DR. B. EMMET asked what the probable source of the hemorrhage had been.

DR. LEE replied it was doubtless due to the general detachment of the placenta, since no single ruptured blood-vessel could be discovered.

ACUTE PULMONARY EDEMA FOLLOWING LAPAROTOMY—RECOVERY.

DR. HUNTER narrated the case of a girl, 24 years of age, from whom he had recently removed the tubes and ovaries, with the view of curing epilepsy. She had suffered for fourteen years with epileptic attacks, which had recurred at every menstrual period since puberty, and had resisted all methods of treatment. Dysmenorrhea was marked. She had been under the care of a number of practitioners, but had continued to grow worse, having lately developed symptoms of insanity. Dr. Hunter made a careful examination under ether, and discovered an enlarged and prolapsed ovary upon the side to which the pain was referred during menstruation. Laparotomy was proposed as a last resort. The

operation was an easy one, and was completed in a little over half an hour, the patient being under ether about forty-five minutes. An hour after the operation she became blue and comatose, râles developed over both lungs, and her condition was most alarming. Assisted by Dr. Coe and the attending physician, Dr. Hunter worked over her all night, employing artificial respiration, hot poultices, and hypodermics of ether, brandy, and digitalis. Dry cups were applied to the chest, and five ounces of blood were withdrawn from the arm. Five hours after the operation, the case was regarded as hopeless. Towards morning, however, the patient rallied, and was soon breathing easily. She made a perfect recovery, in spite of the vigorous manipulation which she had undergone, her temperature never exceeding 100° F. It was too soon to judge of the curative effect of the operation. A careful examination of the heart and lungs had been made before the anesthetic was administered, and they were found perfectly normal. The ether was carefully given, less than half a pound being used. Her alarming symptoms might have been due to her peculiar nervous condition, or she might have had an epileptic seizure while she was under the anesthetic.

In connection with the case, Dr. Hunter referred to one that he had previously reported, in which the patient never recovered from the ether. In that case, however, it was afterwards ascertained that, previous to the operation, the woman had taken a large dose of morphine, to the use of which drug she had been long addicted.

DR. T. A. EMMET said that he had often noticed that opium tended to increase the action of ether, and *vice versa*. He cited the case of a patient upon whom he was about to perform an operation for vesico-vaginal fistula. As she resisted the effects of the ether for a long time, a small hypodermic of morphine was administered. The effect was so powerful that it was six hours before she could be resuscitated.

DR. LEE could not understand how ether could have produced the phenomena which were observed in Dr. Hunter's case. There must have been some peculiar susceptibility to the drug. It was well known that there was a diminished power of the heart and lungs in opium-eaters, but this could not be compared with the effects which followed a single hypodermic. The speaker recalled a case of craniotomy, in which the patient's attendant had kept her under chloroform for eight consecutive hours. She recovered from the immediate effects of the anesthetic, but developed pulmonary edema within twenty hours, which resulted fatally.

DR. COE said that there were certain features of the case which were most peculiar. The patient's pupils were contracted, and in some respects her condition suggested opium-poisoning. As soon as a fresh poultice was applied she responded immediately to the stimulus, her pupils dilated, she moved her limbs, and several times tried to sit up and talk, but soon relapsed into her former semi-comatose state. There was certainly some factor beside the pulmonary edema.

THE PRESIDENT remarked that the important question was

whether it was always safe to administer an anesthetic to patients with peculiar neuroses, chiefly vertigo, epileptiform convulsions, etc.

DR. HUNTER suggested that the large amount of potassium bromide which the girl had taken might have contributed to render her peculiarly susceptible to ether.

DR. HANKS thought that it was unnecessary to attribute her condition to the ether. He had observed a case in which acute edema of the lungs developed suddenly during labor, the patient dying in three minutes before the child could be delivered, although the forceps were applied at once. It was undoubtedly due to the exposure, excitement and exertion, induced by labor. He did not believe that it was possible to predict what patients would recover readily from the anesthetic.

THE PRESIDENT did not regard Dr. Hanks' case as analogous to the one under discussion, since the respiratory and circulatory conditions during labor were entirely different from those in the non-pregnant state, with or without the influence of anesthesia.

DR. B. EMMET called attention to the beneficial effects of large doses of calomel in such accidents, as recommended by the late Dr. Lente.

A CASE OF ACUTE PROCIDENTIA IN A NULLIPAROUS WOMAN.

THE PRESIDENT said that a woman thirty years of age, single, came to the out-door department at Mt. Sinai Hospital, and stated that while washing she had occasion to lift a tub of water. She felt a sudden pain in the abdomen, there was a gush of blood, and something protruded from the vulva. Examination revealed a procidentia. The uterus was easily replaced by Dr. Jos. G. Wallach, the physician in charge of the department, was kept in position by tampons, and she was sent into the hospital. When examined on the following day the uterus was found to be in position, but there was an extensive ecchymosis beneath the vaginal mucous membrane, and there was every evidence that the vagina had been forcibly torn away from its connections. Such cases of acute prolapse were certainly rare in the unmarried, and in women who had never borne children.

DR. T. A. EMMET thought that the accident was not a very unusual one, as he could recall several cases in his own practice. Some of the patients were old single women, but in every instance there was a fibroid attached to the uterus. He did not understand how it could occur under any other circumstances.

DR. JONES recalled the case of a girl sixteen years of age, who had a complete procidentia from carrying a coal-scuttle up-stairs.

DR. JANVRIE asked if there had been any hemorrhage in the other cases. (Both gentlemen replied in the negative.) He thought that the occurrence of hemorrhage was the peculiar feature in the President's case. What was its source?

DR. EMMET thought that the blood might have come from the ruptured hymen.

THE PRESIDENT said that there was no evidence of recent laceration of the hymen. The hemorrhage (the occurrence of which was taken from the patient's own statement) doubtless came from a

laceration of superficial vessels of the vagina. The ecchymoses were submucous.

SUBJECT FOR DISCUSSION: FREQUENT MICTURITION IN THE FEMALE.

THE PRESIDENT proposed that the discussion for the evening be limited to the causes of frequent micturition.

DR. T. A. EMMET thought that thickening of the utero-sacral ligaments as the result of a former cellulitis was a condition far more common than he had formerly believed. It was almost certain to be overlooked unless an examination was made by the rectum. As the ligaments were shortened, constant traction was exercised upon the neck of the bladder, and hence there was a frequent desire to empty that organ. It was rare to find the bladder itself diseased. He cited the case of a young girl who had been treated for cystitis, and had even had an artificial vesico-vaginal fistula established for its relief. He made a button-hole in the urethra, and she was at once relieved. After making a button-hole it was common to find inflammation of the urethral mucous membrane, and if this was removed, the symptom of frequent micturition would soon disappear.

THE PRESIDENT asked if the button-hole operation actually relieved vesical tenesmus.

DR. EMMET replied that it did. By cutting through the hypertrophied mucous membrane, the proper circulation of the part was restored.

DR. COE asked if the symptom of frequent micturition, almost invariably observed in cases of anterior displacement of the uterus, was due entirely to traction on the neck of the bladder, or if the superincumbent weight of the uterus could not be regarded as a factor.

DR. EMMET said that the mere displacement of the uterus had nothing to do with it, unless the organ was in such a position as to drag upon the bladder. The irritation of the bladder was due to traction, not to pressure.

DR. HUNTER asked if the operation did not occasionally fail to relieve the symptoms.

DR. EMMET replied that it was nearly always successful, so that, whenever he failed to cure a patient, he ascribed the failure to a defect in the technique of the operation. It was not intended to cure cystitis, but to relieve vesical irritation.

Stated Meeting, November 17th, 1885.

The President, DR. PAUL F. MUNDÉ, in the Chair.

A CASE OF SPONTANEOUS AMPUTATION AND ARRESTED DEVELOPMENT.

DR. MURRAY exhibited a living male infant, fourteen days old, which possessed the following remarkable deformities. The right upper arm was amputated near the junction of the upper and middle thirds. There were only three separate fingers on the left hand, the fore and middle fingers being united by a firm web, and possessing one nail in common. Both lower extremities were deficient below the condyles of the femurs, the thighs terminating in small spurs, or flippers, which were apparently composed of

skin. The palate showed partial non-union of the opposite halves. Dr. Murray stated that the mother of the child had borne two living and five premature children, none of whom were deformed. When called to the case, the infant was already delivered, but the placenta had not been expelled, so that he was sure that no amputated part had been lost. The child was feeble, and it seemed unlikely that it would survive.

The speaker stated that there were three theories with regard to the cause of so-called spontaneous amputations in utero, the first of which was supported by Montgomery, who claimed that they were true amputations produced by the twisting of the umbilical cord around the limb. The detached member might, or might not, be disintegrated in the *liquor amnii*. This author reported but one case in which the amputated limb was found. He also believed that fibrous bands might exist within the uterus, which by continued pressure caused gangrene of the fetal limb, eventually leading to its complete separation. The second theory was proposed by Martin, who claimed that there was originally a fracture of the limb, the amputation being then effected by the pressure of the broken bone. He based his idea upon a case reported by him, in which a pregnant woman sustained a severe injury by falling from a ladder. She was delivered soon after, and one of the child's arms was found to be amputated, the stump being only partially healed. According to the third theory, there might be constricting bands which extended between two limbs, since children had been born in which an amputated member was discovered suspended midway between the extremities. As a rule one arm, especially the left, was amputated.

DR. GILLETTE believed that the deformity in the right arm was a pure amputation, since the stump had clearly undergone a healing process, but that the other limbs showed evidences of arrested development. This was most marked on the right side, as the right femur appeared to be more deficient than the left. The case was certainly a most rare and interesting one. As to the cause of the deformity, he thought that there was no question but that it was due to the constriction of the members by fibrous bands, so that their nutrition was interfered with.

THE PRESIDENT thought that there was considerable doubt as to whether the condition in the different limbs was due to one and the same cause.

DR. PARTRIDGE was inclined to believe that all three limbs had been amputated, because of the perfect development of the muscles above the points at which the separation had occurred. Montgomery had affirmed that, when the constriction of the limbs occurred at such an early period in fetal life, their development was arrested, the muscles would be found in a state of atrophy, whereas after spontaneous amputation this atrophy was not observed. The speaker did not believe, however, that much reliance could be placed upon this point of differentiation, since he had made careful dissections in a case of undoubted arrest of development, and had found the muscles fairly normal.

THE PRESIDENT said that he had described a case of arrested

development, which he had observed in 1869 (*Boston Medical and Surgical Journal*). He was sure that the development of the lower extremities in the present child had been arrested, since there was no case of spontaneous amputation on record in which these small sprouts remained at the ends of the limbs. Virchow had first called attention to this important difference.

INCLUSION OF A PIECE OF OMENTUM IN A PERFORATED GLASS DRAINAGE-TUBE.

DR. HUNTER showed a glass tube, used for draining the abdominal cavity after laparotomy, the lower fourth of which was filled with omentum that had entered the lumen through one of the small perforations in its side. Tait's operation had been performed four days before at St. Elizabeth's Hospital, and a drainage-tube was inserted on account of hemorrhage. The patient was doing perfectly well, her temperature being normal. He endeavored to remove the tube the previous evening, but was unable to do so. That morning he used some force, twisting the tube entirely around, when it was withdrawn, carrying a piece of omentum with it. The patient had a good deal of pain at the time, and there was slight bleeding, but no ill effects had followed the manipulation. The accident was a forcible illustration of the danger attending the use of perforated tubes.

DR. GILLETTE thought that the holes in the tube were unusually large.

DR. WYLIE said that he preferred straight tubes either without perforations, or with very minute openings.

DR. SKENE, in reply to a question from Dr. Hunter, said that the present tube was *not* one of Keith's drainage tubes, since the openings were three times as large as those used by that surgeon.

DR. HUNTER said that his tube had been purchased in Edinburgh as the variety recommended by Dr. Keith.

THE PRESIDENT asked if Dr. Skene preferred perforated tubes. The latter replied that he did not, unless the holes were very small.

DR. HUNTER replied that he had frequently used such tubes, and had never before had such an accident as the present one.

THE PRESIDENT did not believe that any particular object was gained by using perforated tubes. If a tube was sufficiently long to reach to the bottom of Douglas' pouch, it was enough for any ordinary purposes of drainage.

ATTEMPTED REMOVAL OF A SESSILE INTRAUTERINE FIBROID—DEATH FROM SEPTICEMIA.

THE PRESIDENT showed a uterus which had been removed post-mortem from a patient at Mt. Sinai Hospital. She was admitted into the hospital October 22d, on account of profuse metrorrhagia. She was 40 years of age, had been married twenty years, and was last pregnant fourteen years before. She had been flowing profusely for three years. On examination, the fingers could be passed through the os and almost to the fundus, where a sessile mass was detected. An attempt was made on four successive days to dilate the internal os by means of tupelo tents. These

latter unfortunately did not remain in position, so that when the last were removed just before the operation on October 28th, only the external os and cervix were found dilated. Hoping to secure sufficient dilatation during the operation, the capsule of the tumor was freely excised, and an attempt was made to remove the growth with a spoon-saw. The tissue was so soft that it was impossible to grasp it with volsella-forceps, as they tore out. After working for an hour, it was found that the tumor was so firmly attached to the uterine wall, that its complete removal could only be effected at an imminent risk of perforating the uterus. He accordingly decided to leave the rest of the mass to slough out. The patient, who was previously in very bad condition, rapidly developed septicemia and general peritonitis, and died on November 8th, ten days after the operation. The case was cited because it illustrated the extreme difficulty of removing soft intrauterine fibroids, which were high up in the uterus and were firmly attached to its wall. The President had repeatedly removed similar growths from points lower in the uterine cavity with perfect success.

DR. HUNTER asked if the uterine wall was not very thin near the base of the tumor.

THE PRESIDENT replied that it was, but that there had certainly been no perforation.

DR. GILLETTE thought that the uterine wall, as well as the tumor, was sloughing.

DR. COE said that on examining the growth he was inclined to believe that it was not a suitable subject for removal with the spoon-saw. He referred to Dr. Thomas' practice of excising such sessile tumors piece-meal with scissors, especially if they were quite soft. There was less danger of perforation with this method.

DR. WYLIE thought that the septic infection was not due merely to the manipulation of the uterus during the operation, but possibly to the prolonged use of tents. He thought that twelve hours was long enough to leave each set of tents in position.

DR. JANVRIN believed that the septic poison was transmitted from the uterine wall to the peritoneum. The septicemia was certainly due to the operation, and *not* to the tents.

DR. SKENE said that it was very difficult to decide upon the proper treatment of such cases as the one under discussion. According to his observation, whenever the cervical canal was so contracted as to require artificial dilatation, it was safer to remove the ovaries or to perform hysterectomy, than to attempt the enucleation of the intrauterine tumor. He had seen four fatal cases of enucleation, and if he had to deal with a case of obstinate hemorrhage, he felt that he would offer the patient a better chance by Hegar's operation or hysterectomy; that is, unless the uterus had contracted so much as to force the tumor downwards into the internal os. When the growth was as near the peritoneum as in the present specimen, enucleation was a most unsafe procedure. We should administer ergot, and see if the uterus had the power to partially expel the tumor. He disagreed with Dr. Wylie in his statement that septicemia did not result from injury to the uterus during the operation. It could hardly have resulted from the use of tents.

THE PRESIDENT desired to correct the impression that he ever used sponge-tents. He invariably employed the tupelo variety. He acknowledged that in such a thin-walled uterus as the one shown by him, enucleation was difficult, and the spoon-saw was a dangerous instrument. But the thickness of the uterine wall at the site of the tumor could not be determined before the operation. He certainly should hesitate before operating on a similar case again.

SUPPOSED PAPILLOMATOUS DEGENERATION OF THE OVARY.

THE PRESIDENT exhibited a mass having the size and shape of a large almond, the whole exterior of which was studded with small papillary projections. He had removed it two weeks previously from a woman 33 years of age, upon whom he performed ovariectomy for the removal of a large polycyst, weighing thirty-five pounds, and who had since made a perfect recovery. Finding on the right side what he supposed to be the ovary, and seeing on exposing it that it had undergone a peculiar papillomatous degeneration, he removed it and submitted the specimen to Dr. Heitzmann for microscopical examination. His opinion was expressed in the following letter:

NEW YORK, November 16th, 1885.

Dr. Paul F. Mundé.

DEAR DOCTOR:—The discoid body, about $1\frac{1}{2}$ " in length, and $1\frac{1}{2}$ " in breadth, that you removed during ovariectomy, contains a central cavity, found empty. Around the cavity the wall consists of two distinctly marked layers, the innermost being solid, varying in its transverse diameter from $\frac{1}{2}$ " to $\frac{3}{8}$ ", and here and there is slightly pigmented. The outer portion is papillary or villous in character, also greatly varying in breadth, only a small portion of the solid wall being destitute of villositities. Under the microscope the solid portion appears to be composed of a delicate fibrous and myxomatous tissue, richly supplied with medullary or embryonal corpuscles. The most striking feature is the large number of large and tortuous arteries, with perfectly well developed endothelial and muscular walls, partly in a state of slight waxy degeneration. In a few places there is a deposit of brown pigment, caused by previous hemorrhage. The villous portion consists of very well developed villositities, characteristic of embryonal chorion. The villi are made up of delicate fibrous and myxomatous tissue, and are lined in the lower portions with flat epithelium. The upper portions show columnar epithelia, and numerous offshoots, almost entirely composed of such epithelia.

I do not know whether or not such findings were made before. The case certainly deserves accurate microscopical study, and several illustrations for publication.

Diagnosis.—Chorion of an embryo in waxy degeneration.

Your truly,

DR. C. HEITZMANN.

From this examination it would appear that the specimen was one of a very rare inclusion tumor, that is, a dermoid cyst in its

initial stage. The President acknowledged that he was surprised at this diagnosis, as he had regarded the growth as an ovary similar to one which he had removed some time ago, but had not had examined, believing it to be a proliferating papilloma.

DR. COE did not pretend to question Dr. Heitzmann's diagnosis, but he thought that the specimen resembled in its gross appearance an ovary which he had in his possession, one-half of which was normal, while the other half was papillomatous.

A SUCCESSFUL CASE OF SECONDARY OPERATION FOR ACUTE PERITONITIS, FOLLOWING OVARIOTOMY.

DR. HUNTER reported the case of a patient from whom he removed a small tubo-ovarian cyst on November 11th. Soon after the operation she developed peritonitis, as evidenced by general tenderness over the abdomen, marked tympanites, rapid, wiry pulse, and elevation of temperature. Her condition became so serious that he resolved as a last resort to re-open the abdomen. This was done at twelve o'clock on the third night following the operation. The peritoneal wound had been closed separately with catgut; the edges were firmly united. A small quantity of blood serum was found in the cavity. A glass drainage-tube was inserted, and the cavity was irrigated thrice daily with warm carbolized water. The patient began to improve at once, the tenderness and tympanites disappeared, and she was then convalescing. The marked improvement was entirely out of proportion to the small amount of fluid removed.

DR. WYLIE had found, as a rule, that there were so many adhesions in cases of peritonitis, that it was impossible to secure perfect irrigation.

THE PRESIDENT asked what the precise indication for the secondary operation had been; was it simply proposed to relieve the tympanites?

DR. HUNTER replied that he had expected to relieve the peritonitis, which was evidently present. As soon as this was arrested the tympanites disappeared.

EXTRA-PERITONEAL INCISION OF A SMALL PELVIC ABSCESS.

DR. POLK stated that two months before a woman had entered his service at Bellevue Hospital with a pelvic abscess, which pointed in the posterior cul-de-sac. He opened and drained the abscess per vaginam, but, although the patient at first improved, she began to have hectic, and speedily lapsed into a condition resembling the last stage of phthisis. Thinking that there was another accumulation of pus which had not been reached, the speaker introduced his finger into the abscess and explored it thoroughly, but could detect nothing. After waiting two weeks longer, the patient was anesthetized, and a thorough examination was made. With a finger in the abscess-cavity, one in the vagina, and another in the rectum, a suspiciously soft, but not fluctuating mass, about the size of a pigeon's egg, could be felt behind the

left broad ligament, between it and the rectum, and apparently attached to the pelvic wall just above the level of the spine of the ischium. There was no pointing or even bulging in the direction of either the rectum or the vagina. The problem was how to reach it. To go down through the cavity of the abdomen, meant that the pus would have free access to the peritoneum, as from the position of the supposed abscess and its size, its walls could not be attached to the abdominal opening so as to drain its cavity, and at the same time exclude its contents from the abdominal cavity. The enucleation of the entire abscess contents and walls seemed too serious an undertaking in the patient's weakened state, so the idea of reaching the mass by laparotomy was abandoned. The next suggestion was naturally that an attempt should be made to reach the pus through the vagina, or rectum, or old abscess-cavity. Its remoteness from the walls of all these cavities, the number of the vessels in the involved region, with the presence of the ureter, made him hesitate to attempt evacuation through either of these cavities. There remained but one other path and that was outside the peritoneal cavity, by going down between that cavity and the pelvic wall. The incision for ligating the common iliac artery was made, the peritoneum was easily pushed back till the brim of the pelvis was reached, then the index finger was carefully and *easily* worked down along the pelvic wall toward the abscess until the resistance to further progress showed that he had reached the region of adhesions usually surrounding such spots; gently forcing the finger onward, the abscess-cavity was reached, and about one ounce of fetid pus was evacuated. A drainage tube was put in and the cavity cleansed. This cleansing has been done twice daily, and to date the patient has been well. It was three weeks since the operation.

DR. JANVRIN had never seen a parallel case. He thought that Dr. Polk was most fortunate in being able to detach, and afterwards to open the peritoneum, because it was generally thickened and adherent in such cases.

DR. WYLIE said that he had frequently removed by laparotomy abscesses connected with the tubes and ovaries. He washed out the cavity afterwards with a solution of carbolic acid, 1 to 100, or of corrosive sublimate, 1 to 10,000, and afterwards with water which had been purified by boiling.

THE PRESIDENT called attention to the fact that the discussion turned upon fixed, and not upon removable, abscesses.

DR. WYLIE thought that the tubes were generally the centres of suppuration.

THE PRESIDENT asked if the speaker would open and drain a *pelvic* abscess through an abdomino-peritoneal incision.

DR. WYLIE replied that he would drain such an abscess through the vagina if it could be reached, but that if it re-formed, it was probably due to pyo-salpinx, and hence laparotomy was necessary.

DR. JANVRIN did not believe that the speaker was discussing Dr. Polk's case at all, since he was speaking of an abscess which could be extirpated as if it were an ovarian cyst.

DR. BYRNE asked Dr. Polk if he had ever had any trouble from secondary hemorrhage. [Dr. Polk replied that he had on two occasions.] Dr. Byrne said that he had frequently opened pelvic abscesses through the vagina, and even through the rectum, but that he had never seen any hemorrhage. He thought that the surgeon should hesitate for a long time before undertaking such an operation as that just reported. It was not only difficult to separate the peritoneum in the manner described, but that delicate membrane would certainly be injured during the process.

DR. SKENE asked if pelvic abscesses were not frequently followed or accompanied by cellulitis.

DR. POLK replied that his experience had led him to believe that pelvic cellulitis in the non-parturient uterus was a rare condition.

DR. SKENE believed that he could generally do better by aspirating pelvic abscesses through the vaginal roof, and then washing out the sac by simply reversing the current.

DR. POLK agreed with the speaker, but thought that aspiration was merely a temporary expedient, which should be followed up by the radical operation.

DR. SKENE thought that the needle could be left *in situ*, and a fine thermo-cautery knife could be passed along it as a director, the abscess being thus opened with much less risk of hemorrhage and subsequent inflammation.

DR. POLK said that he would have been afraid to use a cautery in his case on account of the close proximity of important structures, especially the ureter. He remarked, in conclusion, that it would have been impossible to open the abscess by laparotomy, and since it did not point, and could not be reached through the vagina, there was only the one other alternative which he had adopted. If he had another similar case, he thought that he would perform the same operation, as no difficulty was met in separating the peritoneum, and that membrane, as was well-known did not seriously resent that proceeding.

Stated Meeting, December 1st, 1885.

The President, DR. PAUL F. MUNDÉ, in the Chair.

NEW INSTRUMENTS.

A URETHRAL CLAMP FOR LOCAL ARREST OF THE CIRCULATION DURING THE "BUTTON-HOLE" OPERATION.

DR. B. M. EMMET exhibited a spring clamp, made of steel wire, which he had found useful in operations upon the urethra where cocaine was employed as a local anesthetic. One limb of the instrument was inserted into the canal, while the other grasped the urethro-vaginal septum. A limited capillary area was temporarily shut off, so that the effects of the cocaine could be obtained more rapidly than when it was carried off in the general circulation. He had used it in one instance with favorable result. It was adapted particularly to the "button-hole" operation.

DR. COE referred in this connection to several surgical cases in which constriction of the part was practised before injecting cocaine. The action of the drug was found to be more rapid and

permanent. Dr. Emmet had made use of the same principle in the construction of his clamp.

THE PRESIDENT thought that the application of the instrument to the urethra before the cocaine was injected would be attended with considerable pain.

DR. EMMET replied that in the diseased urethra the tissues were hypertrophied, and from extrusion of the mucous membrane at the meatus the latter was quite patulous, and offered little or no resistance to the entrance of the clamp; there was consequently not the pain which would be experienced in a normal urethra.

AN INSTRUMENT FOR DILATING THE CERVIX UTERI.

DR. HANKS presented a dilator that he had devised, which consisted essentially of two pieces of metal which could be separated by an intervening wedge, advanced by a screw at the other end. He recommended it as being simple and inexpensive, while it was free from the main faults of most of the steel instruments, *i. e.*, it did not slip out of the cervix, and there was no springing at the tips of the blades. Both a straight and a curved dilator were shown.

DR. B. M. EMMET thought, from an examination of the instrument, that it would dilate the cervix gradually and effectively. He never used this form of dilator himself, however, because he did not meet with that condition about the *os internum* which called for forcible dilatation.

THE PRESIDENT believed that the internal *os* ought to be dilated gradually by a series of oscillatory movements, as it were, and he doubted if it was possible to do this with Dr. Hanks' instrument.

DR. WYLIE objected to the dilator, because it could not be cleaned easily. He was perfectly satisfied with the Sims instrument, which he used constantly. He did not pull down the uterus with a tenaculum while introducing it, but followed Dr. Sims' original directions, which were to insert the dilator as far as the shoulder, following the curve of the canal, and allowing the uterus to move before it, then to gradually separate the blades, while watching closely the degree of separation. He believed thoroughly in dilatation, and was in the habit of practising it whenever he intended to make an intrauterine application.

DR. NOEGGERATH agreed with the last speaker as to the advisability of dilating the *os internum* before making applications to the endometrium, since in this way only could he feel assured that he had thoroughly touched the mucous membrane of the cavity. For this purpose he used the instrument devised by Holst for dilating the urethra. When he desired to dilate thoroughly, but at the same time very gradually, he employed Hegar's rubber dilators, which were so constructed that the calibres of two successive sizes varied by only half a millimetre.

DR. HUNTER said that he had found Sims' instrument perfectly satisfactory for ordinary purposes.

DR. CLEVELAND also preferred Sims' dilator, and added that he always used it before making an intrauterine application.

DR. HANKS replied to Dr. Wylie's objection that the instrument was perfectly simple, consisting of only three pieces of metal, which could be easily taken apart for cleansing. He also concurred with that gentleman in the necessity of dilating the in-

ternal os before attempting to apply medicaments to the endometrium.

DR. B. M. EMMET asked if, as a rule, the internal os was not already sufficiently dilated in those patients whose condition called for intrauterine treatment.

DR. HANKS said that the os was not always sufficiently patulous, especially when anteflexion was present.

DR. WYLIE said that the mucous plug, which so often obstructs the cervical canal, was dislodged during the process of dilatation, and was expelled without the necessity of resorting to the syringe.

DR. JANVRIN insisted on the importance of introducing a small canula, through which the applicator could be passed, so that the medicament should actually reach the fundus, and not be lost in the cervical canal. He always used such a canula, even after the cervix had been thoroughly dilated with tents. He dilated ordinarily with Peaslee's or Hanks' instrument.

DR. WYLIE said that he always kept several sizes of canulæ on hand, and used them constantly.

PROBE-POINTED SCISSORS FOR OPENING THE PERITONEUM.

DR. HUNTER showed a pair of scissors, the lower blade of which terminated in a probe. He had devised them a year before, and found them useful for dividing the peritoneum in making an abdominal incision.

THE PRESIDENT was under the impression that a similar pair of scissors had been used by Dr. Skene Keith.

DR. NOEGGERATH suggested that the lower blade of the scissors ought to be much broader. He thought that the danger of wounding the intestine was great, even when the peritoneum was incised on the finger, and recalled an operation (at which the President assisted) in which the accident happened to himself.

SPECIMEN OF MALIGNANT ADENOMA OF THE UTERUS—SUPRA-VAGINAL HYSTERECTOMY—RECOVERY.

DR. WYLIE exhibited the specimen, and read the following history:—"The patient, Mrs. G., aged 44, has been married twenty-five years, and had one child nineteen years ago. Her menses are irregular in their recurrence, and since 1876 have been excessive in amount, so that she was treated for 'congestion' of the uterus. In March, 1883, a kind of cauliflower growth was observed protruding from the os externum, and soon after a number of small gelatinous masses were expelled, a continuous hemorrhage prevailing at this time. In 1884, the uterus was curetted by Dr. Brocken, of Nashville, a quantity of friable tissue being removed. The operation was repeated a few months later, but the hemorrhage continued, and gelatinous masses were again discharged. In October, 1884, she came under Dr. T. G. Thomas' care, and remained at his hospital for six weeks, the curette being again used. A specimen of the growth then removed was examined microscopically, and was pronounced to be non-malignant. The patient returned home, and was relieved for a season, but the hemorrhages began again, and a mass protruded from the os as before.

She placed herself under my care, July 5th, 1885. On making an examination I found the uterus enlarged to the size of a child's head, and irregular in shape, while from the dilated os protruded a mass, composed of numerous small bodies, which resembled a bunch of sumach. I removed with the curette five or six ounces of soft, gelatinous material, and sent it to Drs. Heitzmann, Biggs, and Billings. The first two gentlemen pronounced it non-malignant, but Dr. Billings was of the contrary opinion. The diagnoses given were respectively myxo-adenoma, hyperplastic endometritis, and epithelioma.

"I kept the patient under observation for three months, when it became evident from the increased size of the uterus and recurrence of the hemorrhage that the growth had returned in spite of repeated intrauterine applications. As the uterus was freely movable, and the cervix unaffected, I advised abdominal incision, with a view to removing the body of the organ, in case the disease had not extended to the appendages to the peri-uterine tissues. After due consultation and preparatory treatment, the operation was performed on November 26th, nearly the whole of the uterus, with the ovaries and tubes, being removed. I found the organ uniformly enlarged, except on its anterior aspect, where there was a protuberance about the size of an egg. The ovaries were enlarged and cystic, their outer surfaces being covered with recently organized lymph. The wire of a small *écraseur* was passed without special difficulty around the broad ligaments and the cervix, just at the vaginal junction, the included parts were constricted, and after the abdominal cavity had been carefully protected by means of sponges, an incision was made through the uterine wall at the fundus and three or four ounces of dark blood were evacuated. The uterus was then transixed with two steel pins, at a point just above the wire, and the entire mass was cut away. The peritoneum was carefully drawn up beneath and around the stump, the latter being treated with pure carbolic acid, solution of corrosive sublimate and iodoform, and included in the lower angle of the wound, which was closed with silk sutures and covered with a dressing of cotton. There was very little shock after the operation, and there have been no serious symptoms since, except a rapid pulse at first. The highest temperature has been 100° F. in the axilla (102° F. in the vagina). To-day, which is the sixth day since the operation, the pulse is 100, and the temperature is normal, the wound is perfectly healthy, and the patient takes her nourishment regularly and is free from pain."

A portion of the uterus was submitted to Dr. Coe for microscopical examination. His report was as follows:

"[The sections included the entire thickness of the growth, and about one centimetre of the subjacent muscular layer.] The growth itself consists of numerous acini, or irregular spaces, lined

with cylindrical epithelium, the spaces being separated from each other by fibro-muscular tissue. With few exceptions, this adenomatous structure is sharply limited by the line of separation between the mucous and muscular layers. In one or two places, however, scattered alveoli are seen in the midst of the muscle (as in fibro-adenoma of the breast?). There is no tendency to cyst formation in the sections examined, nor are there any signs of degeneration in the new growth, except in one of the sections, where there are appearances almost identical with the drawings of Ruge and Veit, which are intended to represent epithelioma developing from the glandular epithelium. In some spots there are long, delicate branching processes covered with cylindrical epithelium, and closely resembling in structure the papillomatous masses found in the bladder, rectum, and on the inside of ovarian cysts. These are directly continuous with the deeper muscular layer. The smooth muscle-fibres are enormously increased in size and number, showing that hypertrophy, as well as hyperplasia, which are normally observed in the pregnant uterus. There is an increase in the lumina of the blood-vessels, as well as in the number of vessels. Leucocytes are scattered throughout the muscular tissue in considerable numbers. Several deposits of blood-pigment are visible, and other evidences of former hyperemia or hemorrhage.

"From its histological structure the growth can only be an adenoma, which is limited to the mucous membrane and submucous muscular layer. Through the congestion caused by the new growth, there has resulted a general hypertrophy of the fibro-muscular tissue. It is difficult to see how any positive inference of the malignancy of this adenomatous growth could be drawn from an examination of small portions removed by the curette, since a dozen sections, with a single exception, agree entirely with the rule of Friedlaender's, that 'an innocent growth remains limited to the tissue from which it originated, and either leaves the neighboring parts entirely intact, or merely pushes them aside.' Applying Ruge's test (which Friedlaender thinks is inaccurate) the wide lumina of the glands in the present case ought to favor the idea that the growth is not cancerous. 'The diagnosis of cancer of the uterus cannot be surely established, unless it can be shown that the muscle is affected.' This principle cannot be applied in the present specimen, or at least only to a very limited extent. The absence of granulation tissue, and of distinct processes of atypical epithelium, make the diagnosis of epithelioma very difficult. Sarcoma, and all the benignant polypoid growths (including fungous endometritis) are readily excluded. This is one of the cases in which the microscope is at fault. Benignant histologically, the growth gives a clinical history which would seem to justify the radical operation that was performed. Under the circumstances I can suggest no better name for the specimen than

that of Schroeder, who, in his chapter on 'Adenom des Uterus' ('Krankheiten der Weiblichen Geschlechtsorgane') describes and figures a "malignant adenoma of the uterine mucous membrane," both figure and description agreeing perfectly with the present specimen. He is inclined to regard this form of adenoma as occupying a position midway in the scale, which begins with fungous endometritis and ends with epithelioma. Cancerous degeneration is, of course, the common, if not the usual, sequence of such adenomata. It is important to note that the present growth is a *diffuse adenoma of the mucous membrane*, and not the adenoma polypusum of Winckel. There is all the difference as regards malignancy that there is between diffuse, round-celled sarcoma of the uterus and localized fibro-sarcoma. If there is any practical deduction to be drawn from this interesting case, it is this, that the long observation of the patient by the surgeon frequently furnishes him with a more correct notion of the true pathological condition than does the microscope of the expert. It is rather unsafe to base a decision involving the life of a patient solely upon the report of the pathologist, because pathologists, above all other men, disagree. When they do, there is nothing for the surgeon to do but to decide for himself."

DR. B. M. EMMET asked if the patient was much emaciated.

DR. WYLIE replied that she was well nourished in spite of the profuse hemorrhages.

THE PRESIDENT thought that adenoma of the uterus was one of the conditions mentioned by Martin as indicating vaginal hysterectomy.

DR. WYLIE said that it would have been impossible to remove the specimen presented per vaginam on account of its size.

DR. NOEGGERATH recalled a similar case that he had seen in Berlin, in which portions of the growth were examined by a well-known microcopist, who only found in a single section evidences of commencing epithelioma, such as were described by Dr. Coe in the present instance. He cited a case of adenoma uteri which occurred in his own practice. The growth continually returned after removal, but did not become epitheliomatous, although the patient was so much reduced by repeated hemorrhages that Dr. Noeggerath was on the point of proposing hysterectomy as a last resort. He finally cured her by intrauterine injections of iodine.

DR. COE spoke of the impossibility of always deciding as to the benignant character of a growth merely from its microscopic appearances, and referred to a specimen of recurrent papilloma of the rectum which he had examined. Although it presented histologically the character of a perfectly benign tumor, clinically, the age of the patient and the rapid recurrence after complete removal, showed that it was not as simple as one would suppose.

DR. JANVRIN thought it possible that the portion of the growth sent to Dr. Billings might have presented evidences of carcinomatous degeneration, hence the difference between the diagnosis of the various observers.

DR. WYLIE said that the three factors which induced him to operate were: the increasing size of the uterus, the mobility of the

cervix, and the fact that the patient lived at such a distance from New York that it was not desirable to permit her to return home without trying every possible means to relieve her.

THE PRESIDENT said that he had frequently noted the recurrence of intrauterine polypoid growths after their complete removal with the curette. It was usually necessary, after curetting, to make frequent strong applications (such as Churchill's tincture of iodine) to the cavity for some months to prevent recurrence.

DR. WYLIE remarked that iodine had been used repeatedly in his case without any results.

DR. NOEGGERATH thought that stress ought to be laid upon the immediate application of iodine after curetting, so that the sub-mucous tissue might be thoroughly affected. The use of iodine was even more important than the operation itself.

DR. B. M. EMMET had found fuming nitric acid more effective than iodine, since it penetrated more deeply into the tissues.

DR. NOEGGERATH considered crystallized muriate of iron as more useful than either of the applications mentioned; it could be introduced through a uterine pistol. He remembered an instance in which the curette was employed with but little benefit until its use was supplemented by the crystallized iron.

THE PRESIDENT stated that he had for a number of years been in the habit of introducing, immediately after curetting, a plug of cotton soaked in iodine, iodized phenol, iron, or whatever styptic he desired to use, the plug being kept in position by an aseptic tampon, both to be withdrawn after forty-eight hours.

DR. WYLIE said that he generally applied pure carbolic acid to the interior of the uterus after curetting, but did not use a tampon, since it prevented free drainage, and hence favored septic trouble. He preferred to watch the patient for half an hour after the operation rather than to trust to a tampon to arrest hemorrhage.

THE PRESIDENT said that he did not introduce a tampon to arrest hemorrhage, that being done, if necessary, by the uterine plug, but simply to prevent the plug from slipping out of, or being expelled by, the uterus.

DR. JANVRIN remarked that he had used the sharp curette many times at the Skin and Cancer Hospital in cases of advanced malignant disease, sometimes scooping out almost the entire uterus, and leaving only a thin shell of muscular tissue; it was his practice, after stopping the hemorrhage by means of a solution of acetic acid, tannin and glycerin, to pass a Paquelin's cautery, if necessary, up to the fundus, cauterizing the entire cavity of the cervix and body. He had used the cautery in this manner between thirty and forty times during the past two years, and had never observed any except favorable results. The slough generally separated in the course of a week, and the patient was relieved for some time. In ordinary cases of fungous endometritis he applied the tincture of iodine after curetting.

DR. NOEGGERATH was surprised that Dr. Wylie should fear sepsis as a result of plugging the vagina at the present day, when there were so many means for rendering a tampon aseptic.

DR. WYLIE insisted that it was nevertheless bad surgery to dam up the discharge from a wounded surface, when it could be avoided.

THE PRESIDENT did not see how any bad results could follow if the uterine canal was properly plugged, since during the first

forty-eight hours, after which time the plug and tampon were removed, no secretion could take place.

DR. HANKS agreed with Dr. Wylie that it was better to watch a patient after curetting and to arrest the hemorrhage, if necessary, with hot-water injections, than to trust to a tampon, because in using the latter we ran the risk of septic absorption, and there was also a danger from the escape of blood into the abdominal cavity through the Fallopian tubes. But especially because the tampon, when made sufficiently styptic, acts as an *irritant* to the cervico-vaginal mucous membrane, and often having been applied very tightly, and allowed to remain some time, leaves an eschar which may require weeks to heal. He would watch his patient for half an hour if need be.

DR. WYLIE recalled two cases in which tampons applied for the arrest of hemorrhage after curetting of a cancerous cervix had been forced through thinned uterine walls into the peritoneal cavity.

DR. NOEGGERATH recalled two similar cases, but the accident was clearly traced to the fact that the tissues were destroyed by the action of the strong styptic iron with which the tampons were saturated.

DR. HARRY SIMS recommended for the arrest of hemorrhage intrauterine injections of very hot water, followed by applications of iodine.

DR. B. M. EMMET favored the intrauterine *injection* of iodine by means of a long-nozzled syringe. He was accustomed to inject at least a drachm at a time.

DR. NOEGGERATH was firmly convinced of the efficacy of intrauterine injections of iodine. It was not even necessary to dilate the internal os beforehand, provided that the injection-tube was perforated at the sides, and not at the end. A strong alcoholic tincture of iodine should be used, as a solution in weak alcohol might do harm.

THE PRESIDENT cited in support of the possible occurrence of hemorrhage after the operation of curetting, the case of a patient under his care, who two years before was curetted for menorrhagia by an eminent gynecologist, no tampon being applied. She had a violent hemorrhage on the night following the curetting; the operator's assistant was sent for and a firm tampon was required in order to arrest it. No after-treatment was adopted. The menorrhagia continuing, she went to Berlin, and was under Prof. Schroeder's care for several months and left apparently cured. Nevertheless, on her return to this country the menorrhagia returned, a few small vegetations were found, removed, and the case was permanently cured by iodine applications continued for several months.

DR. WYLIE recalled a case of secondary hemorrhage following the operation of incision of the cervix (performed by the late Dr. Sims), in which a tampon failed to check the bleeding, and claimed that unless tampons were very firmly placed, they failed to stop serious hemorrhage.

DR. NOEGGERATH thought that the President's case was irrelevant, because it bore upon the question of secondary, not primary, hemorrhage.

THE PRESIDENT replied that the point was to prevent hemorrhage after curetting, whether primary or secondary, and that his case illustrated the advisability of tamponing after that operation.

A CASE OF HYDRO-SALPINX DIAGNOSTICATED AS EXTRA-UTERINE PREGNANCY—LAPAROTOMY—RECOVERY.

DR. WYLIE reported the case of a patient upon whom he had operated in Hornellsville, N. Y., with the assistance of Drs. Cridler and Baker, who had called him to see the case. Her history was briefly as follows:—She was a widow, forty-three years of age, who had had two children, her last pregnancy having occurred seventeen years before. Her menses stopped last spring, and soon after she had nausea and enlargement of the breasts, while the abdomen increased in size, so as to lead her attending physicians to think that she was pregnant. She was sent to Buffalo, where she was placed under the care of Dr. Mann, who found, on examining her under ether, that the uterus was only three inches in depth, while on one side of the organ was a tumor which he judged to be an extrauterine fetation. He applied electricity for ten days, and then sent the woman home. Soon after her abdomen enlarged rapidly, the enlargement being most prominent on the left side, and the attendants thought that they could hear a fetal heart. Dr. Wylie saw her on November 4th, and learned that three days before she had had an attack of syncope, followed by profuse diarrhea, after which the abdominal swelling became smaller. These phenomena led her physicians to believe that the fetus had died. On making an examination, Dr. Wylie found that the uterus was three inches in depth and was pushed over to the left side of the pelvis by a soft placenta-like mass in the right broad ligament. He could not feel anything which resembled a fetus, but the abdominal walls were thick, and an exact diagnosis was impossible. He thought that the woman might be pregnant. An exploratory incision was proposed. On opening the abdomen, a large, elastic tumor, of a dark color, was found in the right broad ligament; it was firmly attached to the uterus and surrounding parts, and appeared to be either an enlarged tube, or one of the cornua of the uterus that had become dilated. The cyst was tapped with a trocar, and about three pints of clear, straw-colored fluid were withdrawn. The inner wall of the cyst was smooth, and the cavity contained nothing but fluid. The ovary could not be distinctly felt, but it seemed to lie beneath the outer portion of the growth. Several small pieces of the sac (varying in thickness from one-eighth to one-quarter of an inch) were excised, and the edges of the remaining portion were stitched to the lower angle of the abdominal wound, a drainage-tube being introduced. The patient was left in good condition, and when last heard from (November 24th) she was practically well, the wound having healed entirely, with the exception of a small opening at the site of the drainage-tube. Dr. Billings had examined the portions of the cyst that had been removed and was confident that the cyst was a dilated Fallopian tube.

DR. COE asked if it was possible for a pure hydro-salpinx to attain such a large size as the cyst described.

DR. NOEGGERATH replied in the affirmative.

THE PRESIDENT referred to a case reported by Wiedow, in which the dilated tube was as large as a child's head.

DR. NOEGGERATH did not see the necessity of performing laparotomy, since the patient might have been cured by tapping, or at least the diagnosis might have been established in this way, because the presence of ciliated columnar epithelium in the fluid would have been positive evidence that it came from a dilated tube. He described a valuable method of obtaining fluctuation in obscure cases such as the present one. It consisted in placing one finger in the posterior cul-de-sac, and the other hand, upon which percussion was performed, firmly upon the abdomen. The wave of fluctuation was often felt in this way, when it could not be perceived in any other.

THE PRESIDENT asked what special indication there had been for laparotomy in the case reported, except for diagnosis.

DR. WYLIE replied that the presence of dragging pain in the abdomen, and the strong suspicion of extrauterine pregnancy, justified an exploratory incision. There was also evidence of intestinal obstruction.

THE PRESIDENT thought that the aspiration of a hydrosalpinx through the vagina for diagnostic purposes was a perfectly innocuous proceeding. He cited three cases in his own practice, in which the cyst had disappeared completely after tapping and did not refill. The fluid in all was examined microscopically, but no columnar epithelia could be found.

TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF PHILADELPHIA.

Stated Meeting, October 1st, 1885.

The President, B. F. BAER, M.D., in the Chair.

DR. WHARTON SINKLER read a paper on

THE DIFFERENT FORMS OF PARALYSIS MET WITH IN YOUNG CHILDREN.

The form most frequently met with is infantile spinal paralysis, or *polio-myelitis anterior*. This term indicates the pathology of the disease, which is an inflammation of the nerve cells of the anterior horns of white matter of the spinal cord. This affection may come on at any period of life, but is generally seen in children and usually at the age of two years. The children are generally strong and apparently healthy and the paralysis is sudden in its onset. Fully two-thirds of the cases I have seen have been attacked in the summer months, hot weather and teething seeming to be predisposing agents. Dr. Barton, of Manchester, England, reports that of fifty-three cases in which he noted the time of on-

set, twenty-seven occurred in July and August. The attack is preceded by fever of greater or less intensity, with pain in the head and limbs, with general soreness when moved or lifted. After a few days, paralysis more or less complete occurs, but in a few days a regression of the paralysis from some of the affected parts begins. Sensation is undisturbed. Atrophy of the muscles is soon apparent, in fact, the paralyzed portion stops growing for a time. The temperature of the affected portion is low and the skin is blue and mottled, but there is no tendency to ulceration, and wounds or scratches heal readily. The skin and tendon reflexes are lowered or abolished in the affected limbs. At first, response to the faradic current is lost, and later on the galvanic current produces but little muscular contraction except when a powerful current is used. When atrophy has set in, the reaction of degeneration is seen. Most of the cases of club-foot are the result of infantile palsy. Deformities of the upper extremities are rare; the disease differing in this respect from cerebral palsies. The exact causes of infantile palsy are unknown. Over-fatigue often precedes an attack; sudden chilling is considered by Seguin to be a frequent cause.

The *prognosis* as to perfect recovery is only moderately good. In many cases the most faithful treatment fails to restore the paralyzed muscles, but in almost every case we can expect more or less improvement.

In the early stages of the paralysis, after the subsidence of the fever, the treatment should consist of mild stimulation to the spine; ergot and small doses of bromide of potassium should be given internally. Later in the disease, iodide of potassium should be given instead of the bromide. When the palsy is established, electricity and massage are the means to be depended upon. They must be persisted in for months or even for years. Internal treatment is of little or no value, unless there is some failure in the general health of the child.

Spasmodic Paralysis as seen in children is of two varieties: of primary spinal origin, or with a descending degeneration of the cord from a primary cerebral lesion. Sometimes there seems to be a congenital defect in the motor tracts of both brain and cord. In the spinal variety, there is often seen, soon after birth, rigidity of the limbs. At first this is only occasional, but as the child gets older, every effort to move a limb causes muscular rigidity in it. The child does not attempt to walk until three or four years of age. Then when it is supported under the arms, and it tries to stand or to walk, the movements are very peculiar and characteristic. The feet are extended and inverted so that the child rests on the toes. The knees are strongly adducted and lock together so that the legs become entangled. By degrees the child becomes able to walk with the aid of apparatus or some form of crutch. The hands and arms are often affected, and every effort causes muscular rigidity to come on. The mind is unaf-

fects in these cases, and the speech may be distinct, although it is often very defective. Sensation is unimpaired, and the patella reflex and ankle clonus are exaggerated. There is no wasting of the muscles. By these symptoms we infer that the disease is localized in the lateral columns; but exactly what is the nature of the lesion we do not know, for no post-mortem examinations have been made in these cases. The cause is unknown. Hamilton found that three of seven cases which he had collected were premature births; adherent and contracted prepuce has been thought by some to be the cause by reflex influence of the spasmodic paralysis, but operation has not given relief. The treatment should consist of massage, galvanism to the spine, ergot, and cod-liver oil. Fluid extract of conium may be given to allay spasm. In some cases great improvement follows this treatment. Even when we can do no positive good to the limbs, very much can be effected by the aid of apparatus. Properly adjusted braces to the legs will enable a child to walk on crutches or in a Darrach wheel crutch. There is a form of spasmodic spinal paralysis in which the child is imbecile. In these cases there has probably been congenital defect in cerebral development. The head is small and there is no evidence of intellect, often nystagmus is present.

Paralysis from Pott's Disease. Paralysis of the lower extremities may result from caries of the spine. The lesion may be either a meningitis or a myelitis. If meningitis alone, there is considerable pain and contraction of the legs. Generally there is a transverse myelitis. The symptoms are numbness and pricking of the legs, with loss of sensation; gradually increasing loss of power, with wasting of the muscles; incontinence of feces, with retention or incontinence of urine. Sometimes there are ulcers over the sacrum or on the limbs.

The indications for treatment are evident. An apparatus which will take the weight of the body from the spine is necessary, and is sometimes sufficient of itself. Frequently, however, the application of the actual cautery over the spine brings improvement in the symptoms when an apparatus has done no good. Massage and electricity should be used to restore the atrophied muscles.

Paralysis from Rachitis and Diphtheria is seldom complete. The former is often spoken of as the pseudo-palsy of rickets. Negro children, who are very subject to rachitis in cities, often have rachitic paralysis. The child at three or four years is unable to walk or stand. Sometimes it has not sufficient muscular development to sit upright. It can move every limb and has no loss of sensation, but has no power. Cod-liver oil and massage bring about the most satisfactory results in these cases. *Diphtheritic paralysis* usually begins in the muscles of the soft palate and pharynx, and extends to the extremities. It is generally bilateral and incomplete, but I have seen a case in which it was hemiplegic. It is considered peripheral in character, and is believed by some to

be connected with the altered condition of the blood consequent on the original attack. Diphtheritic paralysis is rarely fatal, and lasts in most cases only a few weeks, although it may continue for months. Strychnia and electricity are the means to be employed, and the case usually responds promptly to these remedies.

Pseudo-hypertrophic paralysis is a rare affection, but is of much interest. The disease belongs almost exclusively to infancy. It is characterized by muscular paralysis with great increase in the bulk of the muscles. This enlargement is due to fatty deposit, while the muscular tissue proper is atrophied. The affection begins with weakness of the legs, a peculiar balancing of the trunk and separation of the legs in walking. The shoulders are thrown far back in standing and walking. There is great difficulty in getting from the sitting to a standing position. Later in the disease the muscles become wasted and shrunken, and the general health begins to suffer. Death results from implication of the respiratory muscles. The skin is mottled like a piece of Castile soap. The tendon reflexes are abolished, and electro-muscular contractility is impaired. There is often a greater or less amount of mental weakness. There is no loss of power over the bladder and rectum, and sensation is not affected. Heredity influences the disease, which is slow in its progress, but the course is steadily downward.

Friedreich's disease is still more rare than the preceding. It is, practically, locomotor ataxia in childhood. There is evidenced here also an hereditary predisposition, and the female children seem most liable.

Cerebral Palsies.—Hemiplegia may result from some injury at the time of birth, either from the forceps or from the pressure of a prolonged labor. A child may be born hemiplegic after a perfectly natural and easy labor. Under these circumstances we must regard the paralysis as the result of imperfect cerebral development. Hemiplegia under these circumstances is generally permanent. The side affected grows less rapidly than the other. The flexors of the arm and hand are usually contracted. The leg becomes rigid in the act of walking.

Convulsion is almost always associated with cerebral paralysis, either immediately preceding the attack or occurring soon after. The convulsive movements are most violent on the side which is subsequently paralyzed. The child will have an idiotic expression and speak indistinctly, though its friends will think it intelligent. The convulsions are liable to return when the child is older, and then assume an epileptic form. The walk is peculiar and is called the *spastic gait*. The patient plods along, looking as if he were about to pitch forward. The affected limbs are smaller and shorter, the growth of both bone and muscle being affected. In the choreic variety, where the arm is in constant motion, the muscles may become hypertrophied, but the bone remains short.

Prognosis.—As a rule the prospect of recovery is bad; even if the patient gets well, the hemiplegic side remains awkward.

Treatment.—Cod-liver oil and massage, which always relaxes the contracted muscles. The affected limbs should be used as much as possible.

DR. HARRIS inquired if Dr. Sinkler had ever observed any hereditary predisposition to convulsions and cerebral paralysis.

DR. SINKLER replied that the hereditary influence was decided even when no convulsions occurred.

DR. R. P. HARRIS read a report of the autopsy upon Mrs. Reybold, from whom two living children had been removed by

CESAREAN SECTION

by Prof. Gibson of the University of Pennsylvania. The superior strait was reniform; conjugate diameter one and three-quarter inches, transverse diameter five and one-quarter inches. The malformation was due to rachitis and injury from a fall in her second year. A full report of the history of the patient, the operations, and the autopsy can be found in the *American Journal of the Medical Sciences*, October, 1885, p. 422.

OÖPHORECTOMY.

DR. E. E. MONTGOMERY reported the following case. Mrs. L., of Columbia, Pa., æt. 36 years, married ten years, pregnant five times, the last four years ago, was brought to my notice by Dr. H. T. Chase. Her health has been bad since her last confinement. Menstruation began at 12½ years, and was regular and very free for one and a half years, when she fell, producing pelvic distress, after which, for seven years, the flow was very scanty, lasting but one or two days and accompanied by excruciating pain. She improved somewhat after marriage. Her first conception was followed by so much nausea, vomiting, and anemia that her physician advised and induced an abortion. Menstruation is now regular as to time, but irregular as to quantity; it is preceded by an excruciating pain for two days which continues until the flow disappears; she also has severe pain in the head. She is very nervous at all times, but this is much intensified during the period. Pain is more marked in the left inguinal region and down the corresponding limb. Coition and vaginal examination are very painful. The uterus is enlarged and painful, and tender on pressure over both ovaries. Local uterine treatment had been kept up during the entire four years with no relief. Trachelorrhaphy had been performed with no benefit. Oöphorectomy was advised. September 19th, 1885, she entered my private hospital, and assisted by Drs. W. H. and C. B. Warder and E. Eshleman, the uterine appendages were removed. The left ovary was composed of a number of cysts, the largest of which ruptured while adhesions were being separated. The right ovary was not enlarged, but it was removed

to insure relief. The wound was closed with silk-gut and dressed with sublimated gauze and absorbent cotton. There was no shock. The highest temperature reached was 101.6° at midnight of the 20th, and it became normal on the 22d. Sutures were removed on the eighth day and the wound re-dressed for the first time. It had united throughout and there was no irritation from the sutures. The effect upon her general health remains to be determined.

DR. MONTGOMERY also reported a case of

SUPRA-VAGINAL REMOVAL OF THE UTERUS AND BOTH OVARIES FOR
FIBROID TUMOR.

Ann U., æt. 27, was brought to me by Dr. T. H. Boysen, of Egg Harbor City, with the following history. Her menses from the beginning occurred every three weeks, and were free an entire week. During the last four years they have occurred every two weeks, and are attended with pain in the pelvis and down the limbs, and severe pressure upon the bladder causing frequent urination, and several times necessitating the use of the catheter. Dr. B. had diagnosed fibroid tumor, which my subsequent examination confirmed. The tumor was the size of a child's head, filling up the pelvis and apparently arising from the anterior wall. The examination led me to believe that the bladder was adherent over the anterior surface, and would render the removal of the tumor unsafe. I suggested the removal of the ovaries. She entered my private hospital September 15th, 1885, for that purpose. Drs. W. H. Warder, Boysen, and Martin assisted, Drs. C. B. Warder and Stuttwether present. An incision three inches long was made, and finding the tumor free from the bladder, with cervix sufficiently long to serve for a pedicle, the incision was extended to within an inch of the umbilicus above and symphysis below, and the tumor with some difficulty withdrawn. In the absence of a Tait's clamp which had been ordered some days before, the pedicle was constricted by a wire *écraseur* and the tumor with the ovaries was removed. The pedicle was then transfixed with two steel pins and tied in three sections with strong silk thread. The peritoneum was fastened to the pedicle below the ligatures and the wound closed with silk-gut sutures; the pins holding the stump outside. The wound was dressed with sublimated gauze and absorbent cotton. The operation was followed by some shock, temp. 97.4° , P. 104, from which she soon rallied. She complained greatly of pain. A half-grain of morphia had been given by suppository and three hypodermic injections of morphia, one-quarter grain each, were given during the afternoon before the pain was relieved.

At 3 A.M. of the 24th, I was called by the nurse, who reported bleeding from the stump. Three ounces of blood had been lost. By aid of Dr. Warder, a Wells' clamp was applied below the pins, apparently controlling the hemorrhage; but it recurred later in the day from the angles and from beneath the clamp. By this

time the Tait's clamp had arrived, and the patient was etherized, the lower three sutures removed, the pedicle drawn up, the clamp applied so as to control it completely, and the wound again closed. The wound had united throughout. Temperature reached 100.6° at 9.30 P.M. The highest subsequently, 101.6° , was in the afternoon of the 25th, and it became normal on the 28th. Upon removing the dressings on the 27th, some pus welled up about the pedicle. As the skin was irritated, the dead pedicle was cut away until the clamp slipped off. There resulted, of course, considerable retraction of the stump, but the sloughed tissue is now nearly cleared away. The patient suffers no pain or discomfort; temperature normal. The tumor was situated in the anterior wall and fundus of the uterus, and projected into the uterine cavity.

DR. PARISH remarked that removal of the ovaries had given such good results in cases of uterine fibroids, and was comparatively so free from danger, that he would like to hear from Dr. Montgomery the reason for his choice of operation.

DR. MONTGOMERY replied that the tumor filled the pelvis and pressed upon the bladder and rectum, causing great and constant distress. As diminution of the size of the fibroid tumor is not a certain result of oöphorectomy, and as all the circumstances were in favor of the major operation, he decided upon it as the best one.

TRANSACTIONS OF THE OBSTETRICAL AND GYNECOLOGICAL SOCIETY OF WASHINGTON.

Stated Meeting, October 2d, 1885.

DR. S. C. BUSEY, *President, in the Chair.*

THE PRESIDENT delivered the annual address.¹

DR. JOSEPH TABER JOHNSON reported two cases of

PELVIC HEMATOCELE.

Case I.—In August, 1884, Dr. Johnson was requested by Dr. Lincoln to attend a patient of the latter while he was taking his summer vacation.

The lady was about 30 years of age, and had given birth to one child ten years before, since when she had had a number of miscarriages. She had suffered from repeated attacks of pelvic peritonitis and cellulitis, some of which had kept her in her bed and room for a number of weeks. One, while in Japan, laid her up six weeks, and another in San Francisco about the same length of time. She would make a good recovery, and seem as well as ever after each

¹ See Original Communications, p. 1.

attack. The history pointed to fresh, uncomplicated, acute seizures each time.

The present attack came on very suddenly, with great pain and fever. The pain increased constantly up to a certain point, and was described as of a bursting, tearing, and stretching character. It was at first located on the left side of the uterus, and gradually extended over the entire pelvic cavity, and while it could not be said there was a general peritonitis, still there was such a general hyperesthesia over the entire abdomen, with considerable elevation of pulse and temperature, as to lend color to such a diagnosis. Under treatment by Dr. Lincoln, this general peritoneal tenderness subsided, and the trouble seemed to locate itself in the inguinal regions. On the left side of the uterus was a tumor extending nearly to the navel, and on the right was a mass of a soft, boggy nature, not very painful on pressure, but fixing the uterus in an immovable position.

Dr. Johnson found the patient in bed, unable to move from side to side without pain, and during the same day, while making an effort to defecate, seated on a commode, she fainted, and had to be lifted into bed, and placed in her usual recumbent position, and during the six weeks following she hardly changed her position.

The mass on the left side gradually diminished in size, but she was a constant sufferer from slight chills, night-sweats, and diarrhea. For several weeks she seemed to have a mild form of septicemia. Her color was sallow, some of the time almost as yellow as one with jaundice. There was a morning and an evening rise of temperature, which continued so long that her husband, a physician, was ready at one time to abandon the diagnosis of pelvic peritonitis and cellulitis, and call her disease typhoid fever. Dr. Johnson made daily efforts to detect the presence of pus, but could never satisfy himself of its location, although he was certain that it existed, and was producing characteristic symptoms through absorption. She was sustained by concentrated nourishment, and her medicine consisted, for the greater part, of iron, quinine, and opium. She also took, for a long time, small doses of iodide of ammonium. After three weeks' absence from the city, Dr. Johnson found that the patient had lost some flesh, but had gained in color, strength, and appetite. The tumor on the left side had diminished in size, but the uterus remained fixed and immovable. The patient menstruated regularly, and felt much better after each period, and on one occasion the menses lasted ten days copiously, but as she continued to improve while flowing, little was done to check it, although her husband was several times alarmed by it. Early in October the patient again had chills and night-sweats, and the doctor, believing he detected fluctuation, aspirated the mass on the right side of the cervix uteri, but failed to obtain anything but a teaspoonful of dark-looking blood, although he passed the needle in several directions.

On withdrawing the syringe, it was found to be filled with thick, dark, grunous blood. The diagnosis of hematocele was then adopted. The fluid removed was submitted to Dr. Green, who, after analysis, concluded that it was blood which had been retained for a long time.

After the aspiration, the patient rapidly improved, but it was not until Christmas day that she went to the dining-room, and it was another month before she was permitted to go out riding. In the spring she accompanied her husband to his post of duty in Japan, as well as before the attack. At the last examination, the indurated and boggy mass had nearly disappeared, and the uterus was movable to a certain extent and free from pain.

Dr. Johnson believed that the patient had hematocele from the beginning, which set up a local cellulitis accompanied by pelvic peritonitis, which latter became general, but was subdued by Dr. Lincoln's treatment before he saw her. He (Dr. J.) also believed she had septic infection from the absorption of pus or broken-down elements in the mass.

Case II.—Was equally interesting and equally obscure as to diagnosis.

Mrs. W., aged about 30, the mother of four children, each of whom had been delivered by Dr. J., had a good convalescence after her labors, but had a decided hysterical tendency. Two years ago she had a number of attacks which simulated abortion so closely that it was difficult to determine whether one had occurred or not. After the last of these, she grew suddenly so much better that she started on a visit to Rochester, N. Y. Her uterus was still three times as large as normal, but she was free from pain. While on the train she was taken with flooding, and was certain that she aborted; but, about seven months after, Dr. J. delivered her of a full-term child.

In June last, the patient began a similar experience. She had violent attacks of bearing-down pain, and passed much blood and many clots.

She had what appeared to be a retroverted pregnant uterus, very painful on pressure. About the last of June, while in the closet, she was seized with violent pain which, she said, was different from any before experienced, and was accompanied by prostration, cold, clammy surface, pallor, and feeble pulse. She said she "felt as if something was tearing and stretching her insides." She received several hypodermics of morphia before being relieved. Patient was in bed three weeks, had slight chills and night-sweats, no appetite, and grew very thin.

Thinking her case might be a repetition of her former experience, the sound was not used. The mass, which felt like the imprisoned uterus, was so exquisitely tender that much information could not be gained.

After six weeks, the patient improved in strength and began to

sit up, and had ridden out once. Her husband now wanted to know if he could safely take her away from the city. Dr. Kleinschmidt, who had seen the patient during several attacks of pain, agreed with Dr. J. in the opinion that the uterus was gravid and displaced, and thought the lady would miscarry.

A month and a half later, in passing the finger beneath the cervix uteri, it partly entered an orifice, and a soft, boggy mass could be felt. Dr. Kleinschmidt, in consultation, felt the same. The impression then was that the case was one of extrauterine pregnancy, the fetus being dead, and the finger coming in contact with the placenta at the point where ulceration through the vaginal wall had occurred. The discharges had not been different from usual. Metrorrhagia had been a constant symptom.

Upon using Sims' speculum and drawing the cervix forward, a hole could be seen, into which a flexible whalebone sound was passed four inches. It came out coated with a brownish-red, badly smelling mass. A scoop was then introduced, and about a teacupful of broken-down blood-clots removed, after which carbolyzed water was injected until it returned clear.

The patient bore the operation well. The next day the washing-out process was repeated, more masses came away, and the odor was fearful. Injections were continued daily until the opening became so small that the curette could hardly be passed. After missing two days, the nozzle of the syringe could not be introduced, and, as there was but slight discharge, it was determined to hold it against the opening and give the cavity a final douche before allowing it to close. Scarcely a pint of water had been injected when the patient screamed, and insisted that a hot, burning liquid had been thrown in among her intestines. She soon became ashy pale, broke out in a cold, clammy sweat, writhed in agonizing pains, gasped constantly for breath, and appeared as if about to die. The impression was that the fluid had been actually forced into the abdominal cavity, perhaps through an opening made by the nozzle of the syringe, and the distress of mind of the physicians was only relieved when, after some moments, the pulse was examined and found to be undisturbed in its fulness and regularity. The condition was simply one of hysteria. There was no further trouble, and recovery rapidly ensued.

In this case, the hematocele was of a different type from the first. The points in common were as follows: Both began with a stretching, burning, bursting pain in the pelvis, and fever. Both had anorexia, chills, and night-sweats. In the first case, no pain was produced by vaginal examination unless undue pressure was made, but during the three weeks there was a mild attack of general peritonitis engrafted upon an inflammation of the upper portion of the pelvic peritoneum. In the second case, there was no general peritonitis, but the pelvic pain and tenderness were very

great. The first patient was confined to her bed and room six months, and had septicemia. The second was not in bed six weeks altogether before the hematocele ulcerated through into the vagina, and the contents were discharged as above described.

Patients with hematocele fare better in the end if kept quiet and let alone, the strength supported, and the absorbents stimulated.

If one were certain that the rapid approach of a fatal collapse were due to sudden rupture of a blood-vessel, the patient's chances would not be lessened by opening the abdomen and ligating it. She is sure to die unless the flow of blood is stopped. Emmet reports a case where hematocele occurred as the result of slight drawing upon the cervix uteri with a tenaculum, and the patient died from loss of blood the next day, although attended by Dr. Thomas and himself.

Fortunately, these cases are rare, and the blood is not always effused into the peritoneal cavity, but occasionally into the pelvic cellular tissue, where the pressure of the surrounding tissues opposes such rapid bleeding as would prove speedily fatal. The case of the actress, Neilson, will be remembered, where, after an unusually brilliant performance late at night, she was seized with sudden pain in the left inguinal region, grew pale, weak, collapsed, and died. The autopsy revealed a ruptured blood-vessel in the left Fallopian tube, and the pelvic cavity and lower portion of the abdomen full of blood. There is little doubt that her chances of recovery would have been vastly improved if the abdomen had been opened, and the bleeding vessel secured.

Errors in treatment have been committed by the application of hot poultices and stupes to relieve abdominal pain, thus favoring the continuance of the hemorrhage, especially when conjoined with the administration of stimulants.

Take all the cases as they occur, and, perhaps, the best treatment would be summed up in the term *expectant*. Of course, where bulging and fluctuation are evident, the usual surgical rule to let out the pus or fluid should be followed. Unusual care during future periods for several months should be recommended.

DR. KING, while listening to Dr. Johnson's record of the first case, was beginning to wonder when the symptoms of hematocele would come in, as most of the recital seemed rather to indicate a case of pelvic cellulitis or peritonitis, and, in fact, a differential diagnosis between these affections was often impossible, since pelvic inflammation so frequently followed the effusion of blood. He thought a failure to diagnose hematocele early in the first case may have contributed to save the woman's life, for if the diagnosis had been made, surgical evacuation of the fluid would probably have followed, and while this proceeding is perfectly justifiable when decomposition and suppuration have produced, or are likely to produce, septicemia, the early evacuation of the blood had proven so fatal that gynecologists now preferred to leave it alone to be reabsorbed unless septicemic dangers rendered evacuation imperative. Barnes, in his work on "Diseases of

Women," relates a case in which, the diagnosis being obscure, a small opening was discovered by the finger, and afterwards seen through a speculum, on the posterior wall of the top of the vagina, similar to Dr. Johnson's case. A sound was passed through the opening into the cavity of the hematic cyst. The patient recovered.

Dr. King believed more cases of hematocele occurred than were suspected in practice, for in many the effusion was small, producing no marked symptoms, and recovery followed. Large effusions of blood, with symptoms of collapse, were generally expected, but smaller ones, occurring in the cellular tissue of the pelvis, or from regurgitated menstrual fluid, or from a ruptured Graafian follicle, might also occur and escape notice. During menstruation, we find the corpus luteum filled with effused blood, but this, according to Coste, was an abnormal condition. Abnormal or excessive coition, especially during pregnancy and menstruation, may cause rupture of vessels, and lead to hematocele. It was important to remember that when the diagnosis between hematocele and pelvic cellulitis and peritonitis was doubtful, it was better to remain in doubt than injure the patient by frequent manipulations and examinations, since the treatment—chiefly rest and anodynes—was nearly the same in each of these affections.

It was curious that in Dr. Johnson's second case the injection of warm fluid should have been followed by simulated hysterical symptoms, so *exactly* resembling the actual symptoms of perforation and injection of the peritoneum.

Dr. FRY said it was remarkable, considering the great vascularity of the female sexual organs during pregnancy, that these cases were not more frequent. Some years ago, he was called to see a young married woman whom he had attended before for pelvic cellulitis. She had been delivered by a midwife, six weeks before his visit. There was severe abdominal pain, coming on in paroxysms of several hours' duration, and at certain hours. On vaginal examination, he found on the right side a pear-shaped mass which was not tender. The uterus was movable. He diagnosed hematocele of the right broad ligament, and relief came ten days afterwards, with the discharge of a black clot per vaginam.

Dr. KLEINSCHMIDT supplemented Dr. Johnson's paper by saying that, at the time of the last injection followed by the alarming symptoms mentioned, he felt about as Dr. J. did, and saw visions of laparotomy. Finding, however, that the pulse was normal, and that there were no symptoms of collapse, he became reassured, remembering that the patient was excitable and hysterical. After Dr. Johnson left for his vacation, the vaginal injections were continued, and in a few days the passage of shreds of clotted matter ceased, giving way to a discharge of a leucorrhea-like fluid possessing the characteristic odor of *liquor amnii*. He examined the patient just previous to Dr. Johnson's return, and could find no trace of the opening behind the cervix. As to the exciting cause of the nervous attack, subsequent inquiry seemed to show that it was not the injection, but pressure of the speculum on the coccyx which in the hyperesthetic patient led to the general explosion in the sensory nerve centres.

Dr. JOHNSON, in closing, said Dr. King was perfectly right in holding that these cases had better be left alone. He aspired in

the first case, because he believed an abscess existed. In the second case the opening was spontaneous. Although Dr. Kleinschmidt had not mentioned it, he would agree, no doubt, that the odor of the discharged coagula was fearful.

TRANSACTIONS OF THE GYNECOLOGICAL SOCIETY OF CHICAGO.

Regular meeting, Friday evening, September 18th, 1885.

The President, DR. H. P. MERRIMAN, in the Chair.

REMARKS UPON ABDOMINAL AND GYNECOLOGICAL SURGERY IN ENGLAND, SCOTLAND, AND HEIDELBERG.

DR. E. C. DUDLEY made some informal remarks relative to his observations in gynecological and abdominal surgery, during a summer holiday, in Europe. His observations were confined to the work of a few operators in England, Scotland, and Heidelberg.

In Heidelberg he called upon Professor Kehrer. Dr. Dudley inspected the hospital and saw evidence of considerable work in abdominal surgery. Professor Kehrer's laboratory gave evidence of active research into gynecological bacteriology. His work bore the stamp of thoroughness and efficiency. Professor Kehrer is a medium-sized man, frail and delicate, with a large head and small body.

A call upon Dr. Bantock, at his office, No. 18 Harley Street, W., London, resulted in a pleasant hour's conversation upon subjects pertaining to ovariectomy and hysterectomy. Patients at the Samaritan Hospital sometimes die within twenty-four hours after laparotomy, with a high temperature. This condition was called acute sepsis by certain systematic writers. Dr. Bantock thought the true pathology of the condition was unknown, and was not satisfied with the term acute sepsis. Dr. Dudley saw Dr. Bantock operate at the Samaritan Hospital. The first operation was the removal of a small, solid ovarian tumor. The remaining ovary and tube, although normal, were removed on account of a small intra-mural uterine fibroid. The striking feature of the operation was great rapidity without haste. Dr. Bantock caught up the edges of the peritoneum with small compression forceps, so that these edges were drawn up towards the cutaneous edges, and were held in this position by the weight of the instrument against the abdominal surface. This manœuvre greatly facilitated the passage of the sutures. The pedicle was secured by means of silk ligature, applied in the operator's peculiar figure-of-eight turns.

In closing the wound, a needle of ovoid shape, curved on the

edge, instead of on the flat, was employed. This needle combines the maximum of strength with the minimum of size. Two or three sutures were passed through at each angle of the wound. Their ends were joined by knots. An assistant, passing the index finger of each hand through the loops thus formed, made traction at each angle of the wound in such a manner as to draw its sides into contact, and to lift the peritoneal edges nearer to the surface. The introduction of the remaining sutures was in this manner greatly facilitated. The sutures were so closely passed that no superficial stitches were required. They were made to include a very narrow margin of skin and peritoneum, and very little if any muscular tissue. Fine silk-worm gut was employed.

The ends of the sutures, on each side of the wound, were now grasped in lock forceps, which prevented them from being drawn out, or becoming tangled during the separation of the wound for the toilet of the peritoneum, which was most thorough, the entire cavity being rendered perfectly clean and dry. The lock forceps were then removed from the ends of the sutures, and the hands of the assistant substituted. Traction was thus made on all the sutures, in the direction of the upper angle of the wound, and they were tied in order from below upward and cut short. This prevents tangling of the threads and otherwise facilitates tying. Antiseptics, throughout the operation, were conspicuous by their absence. The dressings were of the most simple character.

Dr. Bantock kindly showed Dr. Dudley over the hospital, which contained a number of convalescents from hysterectomy, ovariectomy, and oöphorectomy. Dr. Bantock's exceptionally good results, in the last operation, are recognized throughout the world. His wonderful statistics in abdominal surgery are due to downright splendid operating. Dr. Meridith, at the same time, was removing a tumor in another room, under the most extreme antiseptic conditions. The famous Samaritan Hospital is an unpretentious building, seemingly a large reconstructed dwelling, in the middle of a block, with houses joining on either side, and, like great men, has a modest appearance.

It is generally supposed in America that the Woman's Hospital in the State of New York, established by Marion Sims in 1855, was the first of its kind in the world. This is a mistake. Dr. Sims himself, in a letter to Dr. Protheroe Smith, of London, dated July, 1883, accords to that gentleman the honor of having established the first hospital specially for the treatment of the diseases of women. This hospital, founded in 1842, is now a flourishing institution in London, and is called the Hospital for Women.

Its venerable founder visited Chicago a year ago. Dr. Dudley again met him in London. His enthusiasm for the specialty, in which he has been a pioneer, continues, indeed, seems to increase with advancing years. He retains his official connection with the institution, as senior physician, and is still engaged in active prac-

tice. He was among the first, against bitter opposition, to advocate anesthesia in labor. Efforts are now being made, with great promise of success, to raise funds for the construction of a larger and more appropriate hospital building.

Dr. Dudley visited Birmingham, in response to a polite telegraphic invitation from Mr. Lawson Tait. On the train he occupied the same compartment with a sleek, well-fed, high-church London clergyman of the most conservative order, who intimated in an uncertain manner that the conservative people of London looked down upon the inhabitants of the radical city of Birmingham as a semi-barbarous community. So decided were his denunciations of the radical party in general, and of Birmingham in particular, which as the chief stronghold of radicalism always return John Bright and Chamberlain to Parliament, that Dr. Dudley, in an apologetic manner, explained that he was only going into the jaws of the Philistine to witness an operation by a distinguished surgeon, from whom he hoped to learn something. The clergyman inquired who the surgeon was, and upon hearing the name of Lawson Tait, exclaimed: "Oh, I know all about him, he is just as bad as any of them;" which means that Mr. Tait is a radical in politics, as he is in surgery.

Mr. Tait's ridicule of antiseptics is well known. His rapid method of operating conveys to the casual observer the idea of haste and almost of carelessness.

But closer observation very soon shows him to be one of those rare operators, whose dexterity amounts almost to sleight of hand. An ovariectomy, in his hands, does not impress the observer as a capital operation. It seems almost as trivial as opening an abscess. His methods of operating did not materially differ from those of Dr. Bantock. In closing the wound he used but one needle, threaded with a piece of long silk, introducing this as if for a continuous suture, but did not draw the thread tight. After the introduction of the needle, he left a long loop before the reintroduction. Then, after taking the last stitch, he lifted the free loops of silk on the index finger, and severed them with the scissors, thereby converting the continuous into an interrupted suture. These were tied in the ordinary way, and the wound was dressed in a manner which would be eminently acceptable to his most bitter antiseptic enemy.

During the day, Mr. Tait performed ovariectomy, lumbo-colotomy, perineorrhaphy, and excised a urethro-vulvar cyst, besides attending to a large number of consultations, in one of which Dr. Dudley accompanied him to a distance of forty miles. This was for him only a moderate day's work. It is indeed evident that no other man in England controls a larger practice in abdominal surgery.

Mr. Tait impressed Dr. Dudley as a sincere man of exceptionally strong and positive character and very much in earnest.

Like Virchow he is politically inclined; indeed, his temperament is such that he cannot see things go on without having a hand in them. He has taken active part in the city government of Birmingham, and, as Dr. Dudley was informed, had already declined to stand for Parliament.

During a brief visit in Edinburgh, Dr. Dudley was pleasantly entertained by Dr. Thomas Keith, who had just returned from a consultation with Dr. Homans in Boston, but unfortunately Dr. Keith did not operate during this time, although a large number of patients were waiting for him at the Royal Infirmary. His son, Dr. Skene Keith, kindly invited Dr. Dudley to an ovariectomy, his forty-eighth operation. Up to this time, he had only lost one or two patients. His operation presented some interesting peculiarities. He used probe-pointed scissors of a peculiar pattern, instead of the director, in going down through the deeper layers of the abdominal walls. By pressing firmly against the adhesions with a sponge, at the point of their attachment to the cyst, he literally sponged them away from the tumor. It was surprising to note the facility with which rather firm adhesions were thus broken. It is much easier to tear them from the tumor with the sponge than to tear the tumor from the adhesions. The breaking of the adhesions in this way is also much more gentle, and, in the opinion of Dr. Keith, diminishes the danger of shock.

The adhesions were ligated with fine catgut as fast as they were divided. In passing the ligatures a forceps, similar to the ordinary compression forceps, was used. This instrument had blades more than an inch long, of very small diameter, terminating in sharp points, so sharp that when the blades were closed they could be thrust through any soft tissue like a large needle. Grasping the ligature in the point of these blades, the tissue to be ligated was transfixed. The ligature was then pulled through and the forceps withdrawn.

The pedicle was transfixed and ligated with fine silk in the same way.

The cautery, to which much of the elder Keith's success has been attributed, was not employed in this case, because the pedicle was very slender. The reason why the cautery, in the hands of other operators, has not proved a more perfect protection against hemorrhage, becomes apparent to any one who has witnessed its application in the hands of Dr. Keith. The whole secret of his method is, first, in the powerful compression of the pedicle between the broad blades of a heavy Baker-Brown clamp; second, in the prolonged application of the red-hot cautery iron, not only to the pedicle, but, after this has been burned to the level of the clamp, also to the clamp itself. In this way the clamp becomes so hot that the included portion of the pedicle is slowly and thoroughly cooked, so that when the instrument is removed, the end of the pedicle is thin and translucent, resembling a horny

substance. Such a pedicle, in the experience of Dr. Keith, never gives trouble from oozing.

The wound was closed with fine silk sutures which had been boiled. Ten or fifteen pieces of silk were threaded at each end with very finely tempered needles nearly three inches long, which were introduced on either side from within outward. Very small margins of peritoneum and skin were included in the sutures. Dr. Keith thought it a very common fault among operators to draw the stitches too tight in tying. The long fine needle used in closing the wound is superior. It makes a very small puncture which never bleeds, and is so fine that it is easily pushed through by means of finger and thumb without needle forceps.

In the AMERICAN JOURNAL OF OBSTETRICS, April, 1880, Marion Sims had given a remarkable description of the Keith operation, which has exerted a powerful and beneficent influence upon the operation in America. Dr. Dudley could add little except the gentle handling of the adhesions with the sponge, the ligature forceps, and the peculiar long straight needles already mentioned.

The wonderful success without antiseptics recorded by the great Scotch ovariologist, by Dr. Bantock and by Mr. Tait, who have reduced the mortality almost to zero, must have great influence in fixing the value of Listerism so far as it relates to abdominal surgery. At any rate, incompetent operators can no longer venture with impunity upon these capital operations under the dangerous impression that, in some mysterious way, antiseptics will deprive a crude surgical performance of its greatest perils. Evidently it was not so much a question of Listerism as of removing the tumor with the least possible amount of operating and in the shortest time consistent with careful attention to detail, and in the most gentle manner.

Dr. Dudley, however, raised the pertinent question whether Listerism should be placed on trial before a court of abdominal surgeons, and whether, if found unnecessary in peritoneal surgery, it could be fair to condemn it in general. He thought that such a verdict could not be sustained by the facts, but that the antiseptic principle in surgery was destined to stand. Even the most violent opponents of antiseptics agreed that perfect cleanliness was essential. He knew of no other method by which cleanliness could be rendered so nearly absolute. Nor did the seeming ability of two or three of the most dexterous operators to do without antiseptics prove that it might not be a useful aid to others. Clearly, the man who removes a tumor with the least operating and handling of the parts will require fewer preventive measures against inflammation and sepsis. Antiseptics, therefore, might be most valuable for an inexperienced operator, and, to say the least, an additional safeguard for any one.

Some American operators were now having about as good results as could be shown in Great Britain, which seemed to indi-

cate that our former high mortality in this American operation had been due in reality to bad operating, and not, as many supposed, to climatic causes.

The minor gynecology of Great Britain had apparently made but little progress since the days of Bennett and Simpson. The general impression prevails that on this side of the Atlantic we are going wild in the minor gynecological surgery. In response, we may now congratulate our English brethren that many of their leading gynecologists are already commencing to comprehend, to appreciate, and to perform the American operations of perineorrhaphy, elytrorrhaphy, and trachelorrhaphy, and at the same time to lay aside, in a measure, the old *porte caustique*.

DR. H. P. NEWMAN said that there were other reasons for the brilliant success of foreign laparotomists than those referred to by Dr. Dudley. Aside from the facility and expeditious manner of operating, acquired by large experience, a prime factor is the justifiable self-confidence of the operator and a responsive confidence inspired in the patient.

DR. W. W. JAGGARD thought that minor gynecological operations, as Dr. Dudley termed them, were less frequent in the United Kingdom and the Continent than in America. Dr. Dudley had made this general assertion, and he agreed with him. He did not, however, think the operative skill of British or Continental surgeons inferior to that of their American *confrères*. The indications for operative procedure do not exist in the United Kingdom and the Continent as in America. Lacerations of the cervix and the perineum are of much less frequent occurrence. The *cervix uteri* is usually effaced, and the external os is fully dilated before the application of the forceps. Manual dilatation is less frequently practised. The bag of waters is not prematurely ruptured. Greater care is taken with the preservation of the perineum. In a word, obstetricians are better operators, and do not require so-called gynecological assistants.

DR. E. J. DOERING said that, in 1874, he had been present at ovariectomy and other operations performed at the Samaritan Hospital by Sir Spencer Wells. He was particularly impressed with the extreme care exercised in admitting spectators to the operations, each visitor being required to sign a statement that he had not made an autopsy or attended a case of contagious disease for the two or three days preceding. He desired to know whether these regulations were still in force, and also if Mr. Lawson Tait and Dr. Keith required similar restrictions.

THE PRESIDENT asked the following questions:

1. "Was any treatment given to the patients to prepare them for the operation by any of the eminent gentlemen mentioned?"
2. "How were the patients covered during the operation, or was the whole abdomen left bare?"
3. "How was the evacuation of the cyst managed?"
4. "Was the patient turned upon her side to accomplish this, as Dr. Thomas sometimes does?"

THE PRESIDENT suggested that all who desired should ask questions for further light before the general discussion began.

DR. CHRISTIAN FINGER replied to the question, raised by Dr. Dudley, that antiseptic precautions might be more important in surgery in general, than in abdominal surgery, where it looked

as though more perfect methods of operating without antiseptics gave as good results as with antiseptics, as follows:

He thought that the abdominal, or rather peritoneal cavity, in respect to the antiseptic precautions, occupies a peculiar position in surgery. The danger from absorption of the poisonous antiseptics is far greater in the abdomen than in wounds. The ability of the peritoneum to absorb serous fluid and blood before it decomposes, to encapsulate foreign substances not capable of absorption—*ex. gr.*, rubber ligature—is perhaps somewhat greater than the ability of a wound in that direction, although it may be that there is some prejudice about this, as we have not as yet used silk ligatures extensively in general surgery.

As to the question, whether more perfect methods of operating without antiseptics would improve the results, or rather prevent inflammation and sepsis, he could say that outside of the peritoneum this question must as yet be answered in the negative.

In 1873, Volkmann, of Halle, introduced the Lister method of dressing and operating in his surgical clinics. In his report of the work done in 1873 ("Beiträge zur Chirurgie," 1875), the antiseptic surgery had reduced inflammatory and septic complications following excisions, amputations, fresh penetrating articular wounds, fresh open fractures, to a minimum never before dreamt of, and all this in one year. In the broad field of surgery it is not possible that Volkmann or anybody else could improve the *technique* of operating to the extent of having the results change all of a sudden that way. No surgeon would dare to-day to excise, for example, a knee-joint, without antiseptic precautions in all the minute details, even if he employed all the latest improvements in the method of operating. Abdominal surgery is the only branch of surgery in which, as yet, the heavy operating has been done without antiseptic precautions.

TRANSACTIONS OF THE GERMAN GYNECOLOGICAL SOCIETY.

SECTION XVIII. OF THE FIFTY-EIGHTH ANNUAL MEETING
OF GERMAN NATURALISTS AND PHYSICIANS,
HELD AT STRASSBURG.

(REPORTED BY M. GRAEFE, M.D., HALLE A. S.)

(Translated from the *Centralblatt f. Gynäkologie*.)

SCHATZ (Rostock) read a paper on

THE FORMS OF THE CURVE OF UTERINE CONTRACTIONS AND THE
PERISTALSIS OF THE HUMAN UTERUS.

He briefly touched upon the manifold difficulties associated with the examination of the phenomena of uterine contractions, the

cause of which is to be sought in the smooth muscular apparatus and its peculiar structure. There is, besides, a second difficulty, namely, to learn to understand fully and to read the curves delineated by the intrauterine pressure. Thus the explanation of the different forms of curve was not an easy task to S. In many cases, the ascending part of the curve is exactly equal to the descending one; only the latter is more drawn out, similar to that with which we are familiar in the twitchings of the striated muscles. In most instances, the ascending portion is much steeper than the descending one, rarely the reverse. For various reasons, S. soon abandoned the view that the gradually declining curves are curves of fatigue. In like manner, he was forced, after years of experimenting, to again abandon another interpretation which he had accepted on account of analogous appearances with striated muscles, namely, that they were curves of tension and of shortening (curves of tension in difficult or impossible evacuation of the uterus, curves of shortening in evacuation by contraction), although he convinced himself that the labor curve was somewhat altered by the possible or impossible evacuation. After further laborious investigations, he had now come to the conviction that the different labor curves are only traceable to the circumstance that the uterine muscle does not contract simultaneously, but in a peristaltic manner. Beside the peristalsis, the form and the distribution of the muscles have a certain though subordinate influence. A peristaltic contraction of a cylindrical uterus will produce a curve of intrauterine pressure, the ascending and descending portions of which will be equal. But in the case of a conical or funnel-shaped uterus, the labor curve will first ascend steeply, and gradually decline, because during peristaltic contraction a greater intrauterine pressure will arise at the wide than at the narrow end. For during contraction of a wide zone, more fluid is displaced than in a narrow one, and inversely the displaced fluid finds greater resistance in passing into the narrow zone than in passing from the latter into the wider one. When the uterus is distinctly transverse or even bicornuate in form, the contraction, beginning at the two tubal extremities, and progressing from the narrow to the wide part of the funnel, will be followed by a curve ascending more gradually than it descends. The muscular apparatus of the uterus, by the varying thickness of its several muscular zones, in conjunction with their differing width, acts on the intrauterine maximal pressure, and thus on the form of the labor curve. When the zone, which by its thickness and circumference commands the greatest muscular bulk, and hence the highest power, is above the middle of the uterus—the usual condition—then the greatest intrauterine pressure, and with it the acme of the pain, occurs before its middle; its ascending portion is steeper than the descending one. When the most powerful zone lies in the middle or—a rare condition—below it, then the acme is likewise in or behind its middle. In addition, of course, the fact

must not be lost sight of that the form of the contraction is influenced in a slighter degree by other factors, such as the possibility of evacuation, etc.

As regards the direction in which the peristaltic movement extends, it passes, in the human as in the animal uterus, from the tubal extremities to the os uteri. The several proofs of this fact will be published subsequently by S.

Very difficult of solution is the question with what rapidity the peristalsis passes over the uterus, as that movement cannot be seen on the round human uterus. S. has constructed an apparatus which, when introduced into the evacuated uterus, is said to represent graphically the contraction of the upper, middle, and lower portion, each separately, but all at the same time, and hopes to be able to give at some future time pictorial delineations of the peristalsis. For the present, he has calculated in another way the time in which the peristalsis travels from the opening of the tube to the internal os. It is said to amount to about twenty to thirty seconds, or, in proportion to the length of the pain, which lasts from sixty to ninety seconds, about the third part of it. Since the length of the pain is always equal to the length of the contraction of the single muscular fibre plus the peristaltic course, the former amounts to forty to sixty seconds, that is, double that of the peristaltic course. Therefore, when the contraction begins at the mouth of the tube, it takes twenty to thirty seconds until the internal os likewise begins to contract. The latter, indeed, is passively distended from the start; but its active tension does not begin until twenty to thirty seconds later. At this time, the muscles at the tubal extremities are in the state of highest contraction. When the internal os is in that condition, the tension has again disappeared at the tubes.

Whether the peristaltic course takes place continuously as it does in the ureter, or intermittently, so that always entire zones would be in an equal phase of the contraction, S. is as yet unable to state positively. But he thinks he has observed this phenomenon on the animal uterus, and suspects the same to be the case with the human uterus.

SCHATZ (Rostock) also read a paper on

THE ETIOLOGY OF FACE POSITIONS.

S. is of opinion that the various publications treating of the etiology of face positions have taught us a number of so-called predisposing factors, but have left us in doubt about the true origin. He has observed two cases of face position which, being in themselves sufficiently clear, might give more definite information in general. In both cases, the face position was due to an undeveloped form of the uterus. The latter is generally triangular, and may suffer different modifications. In a well-proportioned uterus the line of junction of the two tubal orifices is much shorter than that of

either of the latter with the os internum. Not rarely, however, an isosceles uterus becomes an equilateral one; the base may even be longer than the sides. Then the uterus is not a long, but a transverse one. In the latter case, there is often a saddle-shaped depression of the base. The uterus then becomes heart-shaped or bicornuate.

At the end of pregnancy the human fetus finds room in the comparatively short uterus only by being compressed into a curved form. This is usually the case over the ventral side, because the fetus develops in this direction, and hence lies thus most readily without being incited to movements. More rarely, and generally but temporarily, the curvature takes place over the dorsal surface. The face position is nothing but this uncommon curvature. Indeed, it is not such a one in its purity, but rather a transitional frontal position. As the result of the mechanism of labor, there subsequently ensues the presentation of the chin, an over-stretching.

As to the manner in which the reverse curvature of the fetus in utero is brought about, the two cases of the author give some information.

In the first case the uterus was depressed at the base; second position of the skull; breech in the right cornu; head in the upper part of the cervix. If the ovum is to lie in an equilateral uterus without forcing it to change its form, breech and head must lie in two angles, and the curvature of the body toward the side of the third angle. If it lie toward the side of the line of junction of the two occupied angles, the uterus is greatly distended in this direction beyond its regular shape; it reacts upon it by its power of restitution, pressing the breech against the head. If the former—for instance, owing to the depression of the fundus—cannot escape from the occupied horn into the other one, and the head is likewise retained in the cervix, the dorsal flexion occurs, and to the greatest extent at the place of the movable neck of the fetus. In this way the foramen magnum is changed from its former to the opposite location; the face position is complete so far as it can occur during pregnancy, or at the beginning of labor. The question, how the breech came to occupy the angle of the uterus not belonging to it, can be answered thus: that this takes place in living fetuses simply by a not uncommon very great active extension of the fetal legs. In dead ova, of course, this cannot be the case. But in them the dorsal flexion finds less resistance, and therefore can also be brought about by slight forces, for instance, traction on the cord in the beginning of labor, distention of the abdomen, etc.

In S.'s second case, the child lay as in the first, but the fundus was not depressed. Here it might be anticipated that the breech, having been pressed into the right cornu of the uterus by the extension of the legs, should again go back into the left horn with

the subsidence of the extension. But it must be borne in mind that when the breech is vigorously pressed into the right horn, and the uterus reacts against the great elongation with its restitutorial power, the rounded back, itself crowded out of the right side, effects a displacement to the left of the fetal neck over the pelvic inlet. If the head is at the same time freely movable over the pelvic inlet or the internal os, it is pushed in toto toward the left: an oblique or transverse position arises. But if it lies half in the pelvis, or a similar concavity formed by the lower uterine segment, it cannot give way laterally; the head is twisted as in a ball-joint; the foramen magnum, hitherto at the right, now comes to be at the left.

S. believes that the above-described mechanism applies not only to similar, but also, *mutatis mutandis*, to many other cases; for instance, when the second twin lies over the back of the first in such a way that the latter can curve only dorsally, or when a tumor inverts the curvature in like manner. In a uterus which is considerably inclined to the right after the internal os has dilated, the fundus in toto will, to some extent, assume the function of the right cornu, and the concave curvature toward the right of the genital canal will be able to produce a face position of a child situated in the second position.

It is also possible that the narrowness of the pelvis and the dolicho-cephalic shape of the head (Hecker), which, according to Winckel and Hecker, are not rarely associated with face position, may have some influence in the above-described mechanism. In the latter case, the foramen magnum occipitale is situated more in the centre of its basis than in the brachy-cephalic form. Hence it will be more easily displaced laterally from the cervical vertebræ. In a contracted pelvis, especially when the diameter is straight, the head often represents a cylinder whose axis is formed by the line of junction of the tubera parietalia, and projects with its ends above the brim of the pelvis. If now, in the second position of the skull and a uterus inclined to the right, the foramen magnum is pressed to the left from the neck, a change into a face position will occur more easily with the dolicho-cephalic head than with a brachy-cephalic one, especially because the axis of the cylinder in the former case lies dorsad of the atlas joint, but in the latter ventrad, and because, at the same time, the resistance at the pelvis in the former is more to the right than in the latter. Of course, it requires in addition a sufficiently free mobility of the head in the pelvic inlet, and a diminution of the resistance by the child against the unusual position. In conclusion, the author requested that attention be paid as to how frequently the above-described mechanism, in which the face position is produced solely by the equilaterally triangular form of the uterus with or without indentation, finds application in nature.

W. A. FREUND (Strassburg) agreed with the previous speaker in

that he had likewise observed that changes in the form of the uterus might lead to the origin of face positions. But in his cases the changes were in the lower segment, of acute origin, not those of the fundus, which are congenital.

BAYER (Strassburg) had also arrived at similar results in some respects. His inquiry, whether, in the two cases mentioned by the author of the paper, the location of the placenta had been noted, and where it had been, was answered by S. to the effect that in one the placenta was situated in the horn not occupied by the breech. B. himself had had opportunities for observing face positions, in which the placenta was situated in one tubal angle, which was much thinned, while the breech occupied the other cornu. In the lower cervical portion a peculiar spastic stricture was found. Owing to the attachment of the placenta in the tubal region, and the consequent expansion of the latter, the uterus assumes an arcuate form, which disappears post partum. B. would not maintain on principle that this location of the placenta is of causal importance for face position. Otherwise he refers to his paper published in the *Gynäkologische Klinik*, edited by Freund, particularly the chapter on face positions with strictures of the cervix.

LOEWENTHAL (Lausanne) read a paper on

SOME FACTS LEARNED DURING ARTIFICIAL SUPPRESSION OF THE MENSTRUAL FLOW.

In the following remarks L. aims to give some practical illustrations of his paper on menstruation. He first discussed the modus of the suppressio mensium. If the old method, rest in bed and injection of hot water, is to be effective, special regard must be had that the injected water is hot enough (*i. e.*, 50° C. or 122° F., and rather more), and reaches the vagina in the same state. L. has observed that water of only 46-47° C. (115-117° F.) acts no longer hemostatically, but on the contrary, like luke-warm water, permitting hemorrhage. It is necessary, moreover, that rest in bed should be maintained, even for some time after the cessation of the hemorrhage. In some cases, though they are rare, hot water has no hemostatic effect at all; then the flow will disappear on the application of ice-water. This experience has also been confirmed by an American physician.¹

The material at L.'s disposal at present comprises twenty-three cases, which he has had under observation for some time. Of these, eighteen were cases of pronounced chloro-anemia, with very troublesome nervous sequels, such as grave nervous dyspepsia, hysteroid general symptoms, hysterical convulsions, and two cases of hystero-epilepsy. Of the remaining five cases, two were of grave hysteria, three convalescents after exhausting diseases. In these latter, only a shortening of the convalescence and a more rapid return of strength was aimed at, and was attained. In the eighteen chloro-anemic patients a remarkably rapid improvement occurred without further medication, generally after the first suppression; recovery ensued in the period from after the second to

¹ P. F. Mundé, "Minor Surgical Gynecology," 2d Ed., 1885, p. 150.

the eighth suppression. Of the two hysterical patients, one was greatly improved; not so the second, but in this case the suppression was instituted without any real indication, as the last resort, after years of other and ineffectual treatment.

In all these cases, the nervous, dyspeptic, and hysterical symptoms had appeared after the occurrence of the menses, generally long after, and had exacerbated after each menstruation. In some cases, childbirth, abortions with profuse hemorrhages, and in two cases typhoid fever, were the first cause of the disease, which was kept up or made worse by the menstruation.

L. has never observed untoward accidents in artificial suppression of menstruation. He is desirous of finding some simpler method for its production, because rest in bed is unwillingly maintained by most patients, and hot-water injections are often made insufficiently when not supervised by the physician.

NIEBERDING (Würzburg) has observed suppression of the menses to occur after prolonged intrauterine employment of tincture of iodine, and that not once only, but repeatedly. The patients suffered in consequence various symptoms, especially dysmenorrhic pains and disturbances of the general health, symptoms of congestion, etc. N. decidedly opposes the opinion expressed by Loewenthal that in these cases we had to deal, not with sequels of menstrual suppression, but with concomitant phenomena of a metritis, which possibly may have been heightened by the injection of iodine. The uterus and surroundings were not sensitive on pressure, and there were no inflammatory symptoms. The dysmenorrhic pains had been the most important.

KUGELMANN (Hannover) stated that he had used *hydrastis canadensis* for the suppression of the menses with good effect, sometimes with the addition of tincture of iodine. It is strange that some women lose more blood during menstruation when at rest in bed than when they are about. As regards the indications for the suppression of menstruation, K. thinks it to be very important that they should be more sharply defined. In all nervous conditions, the effect is by no means a good one. Thus it happens that in hysterical patients the affection becomes worse after the suppression of the menses.

LOEWENTHAL (Lausanne) stated again that he had never observed pains, sensibility to pressure of the uterus, or other disturbances of any kind after suppression by means of hot-water injections. In reply to a question previously directed to him by Kugelmann, he stated that he pleads not only for the suppression of excessive, but also of the normal menstruation, especially in chloro-anemic women and those in whom morbid symptoms, of the kind mentioned, occur or become worse with or in the train of menstruation. Thus in hysterical patients he endeavors to suppress the menses only when hysterical attacks occur always after them or when chloro-anemia is present.

DOEDERLEIN (Erlangen) read a paper on

ANESTHESIA BY NITROUS OXIDE WITH OXYGEN.

After giving a comprehensive historical review of the employment of nitrous oxide or laughing-gas as an anesthetic, and ex-

plaining the danger of asphyxia connected with it, which can be avoided by an admixture of oxygen, as has been shown by the experiments of Best and Klikowitsch, the author describes the mode of preparing the two gases in use for the past year in the obstetric clinic of Erlangen, as well as the apparatus employed. The nitrous oxide gas is procured by heating pure nitrate of ammonium to $215^{\circ}\text{C}.$; the oxygen is prepared from manganese and potassium chlorate. As the latter contains poisonous admixtures, it requires a process of purification, which is effected by passing the gas in part through a fifty-per-cent potash lye, in part through Bunsen's wash-bottles filled with English sulphuric acid. The mixture of the two gases takes place in a large gas-holder of two hundred and fifty litres capacity, from which it is conveyed, in pipes, to the parturient ward along the wall at the height of the bed. The mixed gases are employed in the Erlangen clinic generally only in the second stage, during which the pains of the patient reach the highest degree. Despite continuous inhalation for from one-half to one hour, no cumulative effects or threatening symptoms were observed.

The sensations during the narcosis—D. has had it repeatedly instituted on himself—are not disagreeable. They consist first in a peculiar prickling feeling passing through the body, slight darkening before the eyes, and in a vivid mental activity standing in marked contrast to the lethargic, somnolent state of the body, but especially in an anesthesia which is at first incomplete, and later becomes complete. In most parturients, ten to fifteen inhalations, according to their depth, sufficed to quiet them without any phase of excitation, and even to cause them to sleep. Usually there is no consciousness remaining, although the patients react to calls, that is to say, promptly answer questions. Restored to consciousness by a few breaths of ordinary air, most of them know nothing of what has happened. Herein, however, the individuality plays a decided part. In about sixty cases it was not possible to demonstrate any influence of the narcosis on the frequency and effect of the pains, or a retardation of the labor. Sometimes the latter was even hastened by a very energetic bearing down. In operations such as versions, in which a relaxation of the uterus is desirable, the gas will not be appropriate, because the pains continue. But in normal labors and such manipulations as do not require any remission of uterine activity, D. feels impelled to strongly recommend the mixture of nitrous oxide with oxygen for the mitigation of pain. It is also applicable to labors outside of institutions. The Erlangen clinic possesses a rubber balloon of about two hundred litres, capacity (made by Metzler & Co., Munich) which can be inflated with the mixed gases, and thus transported.

The author sought to ascertain the influence of the gas on the cardiac activity, as well as its action on the blood by an experiment

on a dog. The blood pressure remained stationary during the narcosis. On spectroscopic examination of a few drops of blood taken from the animal, the two lines characteristic of the absorption of oxyhemoglobin were found. Hence the oxygen, with this mixture, remains in its normal combination in the blood, and the nitrous oxide circulates possibly in a loose chemical combination by absorption in the plasma.

ZWEIFEL (Erlangen) calls particular attention to the practical value of this communication. The chemical preparation of the gases is not so difficult as might appear. The cost, too, is proportionately small. The price of two hundred and fifty litres—a quantity sufficient to keep a parturient woman anesthetized for several hours—is five marks (about \$1.25). Z. likewise lays stress on the prompt effect, the freedom from danger, the rapid return to complete consciousness, generally after three inhalations of ordinary air.

WINCKEL (Dresden) calls attention to the fact that the statement made by the author of the paper that Klikowitsch's experiments had thus far not been imitated are not borne out. He (W.) had employed nitrous oxide in more than fifty cases at the Dresden Maternity (see "Sitzungsbericht aus der Dresdner gynäkologischen Gesellschaft," *Centralbl. f. Gyn.*, 1883, No. 10). Dr. Tittel had reported on it at the time. The results then obtained quite corresponded with those of the author of the paper. He does not think it necessary that the gas should be inhaled through a mouth-piece covering the nose likewise. The ingress of atmospheric air through the nose does not diminish the influence. The parturients prefer a simple mouth-piece. W. has also tried the mixture of the gases in town practice. For the transportation he made use of large rubber cushions imported from St. Petersburg. But they soon became defective after the gas was stored in them, and could not be repaired.

DOEDERLEIN (Erlangen) observed in reference to the last remark that bad material in the cushions was probably the cause. The balloon employed in Erlangen was now in use for more than a year and a half without having become defective.

NIEBERDING (Würzburg) read a paper on

POSTERIOR PARAMETRITIS AND ITS SEQUELS.

The author expressed his surprise that so little had been published during the last few years about parametritis posterior—a disease which is so frequent that he has met with it in ten per cent of his private practice, and which is followed by grave sequels. He thinks that the reason therefor is to be sought in the growing operative tendency of gynecologists, and their greater interest in that branch.

As regards the source of parametritis posterior, he shares the view of Schultze, namely, that it is rather frequently of puerperal and still more frequently of non-puerperal origin. The first onset of the affection is usually not readily elucidated, since it is not marked by either violent symptoms or high fever. The beginning is more subacute, the whole course insidious. The symptoms in-

crease but gradually, and may, indeed, become very intense, as for instance, the sacralgia and violent attacks of pain during defecation.

In the puerperium, parametritis posterior arises probably by infection of lacerations into the recto-vaginal septum, although the patients claim to have observed the first symptoms a long time after the confinement. In non-puerperal cases, the subjects are usually girls or women who have suffered for years from grave anemia, menstrual anomalies, sacralgia and abdominal pains, and obstinate constipation. N. would not decide whether the irritation here by the accumulated feces, and infection possibly of rhagades caused by distention of the rectal mucous membrane, or a primary disease of the uterus, and especially of the endometrium, is to be looked upon as the first cause. As regards the sequels of the atrophy of the folds of Douglas on the uterus and its position, the author does not agree with Schultze as he does with reference to the etiology. While the latter writer holds that the fixed, acute-angled ante flexion is the most frequent result of the atrophy of the folds of Douglas, N. thinks that there is quite as often a reposition with a more or less marked retroversion—a condition which S. declares to be rare. This requires a fixation by larger masses of exudation, which reach high up on the posterior wall of the uterus. The retroverted position may be aided by a certain rigidity of the uterus, due to chronic states of infiltration.

As an instance how important the atrophic conditions of the folds of Douglas and the parametric cellular tissue surrounding them may become, N. relates the following case:

A young lady, aged 17, affected for two or three years with pronounced chlorosis, has suffered for the past year from increasing sacralgia and abdominal pains, obstinate constipation, and occasional amenorrhea. Uterus strongly retroverted, immovable, fixed to the posterior pelvic wall by a hard flat tumor, which crowded the posterior fornix downward, and gradually decreased at the sides of the uterus. Treatment produced no result. The patient died of marasmus in consequence of a supervening peritonitis. At the autopsy an exudation was found embracing the rectum high up, contracting its calibre to the size of a uterine sound, and drawing the uterus, the broad ligaments, and the ovaries strongly backward. The uterus was retroverted, but only by the extra-peritoneal adhesion.

KUESTNER (Jena) called to mind that Schultze likewise traced a portion of the retroflexions to parametritis posterior. When the acute stage has passed, the muscles of the ligaments have so deteriorated that they allow the vaginal portion to sink, and thus pave the way for the formation of a retroflexion. K. also explained the mechanisms, not hitherto known, by which retroversions and retroflexions arise. (The reader is referred to K.'s paper on the conditions causing the origin of retroflexion, etc., in the *Zeitschr. f. Geb. u. Gyn.*, last issue.)

NIEBERDING (Würzburg) again briefly explained the origin of retroversions after parametritis. The exudation beneath the peritoneum extends upward. When it subsequently shrinks, the uterus is drawn backward and fixed.

SCHATZ (Rostock) thinks that Kuestner's and Nieberding's views are not opposed, but supplement each other.

FROMMEL (Munich) is of opinion that the processes described by N. are generally not purely parametric, but also perimetritic, and, partly running their course in Douglas' pouch, lead to adhesions in the latter.

W. L. FREUND (Strassburg) holds that the case cited by N. was not one of parametritis posterior. This disease, with the formation of an exudation, can only develop laterally, but not so high up as in that instance. He thinks it absolutely necessary that in such cases the anatomical relations should be exactly determined, lest we retrogress again in our knowledge of these forms of disease.

H. W. FREUND (Strassburg) read a paper on

THE MINUTE ALTERATIONS OF THE NERVOUS APPARATUS IN THE
PARAMETRIUM DURING SIMPLE AND PARAMETRITIC ATROPHY.

When the father of the speaker recently elaborated the clinical and anatomical history of parametritis chronica atrophicans, he was allotted the task of examining the condition of the nervous apparatus as far as it entered into this question. The one here to be considered is the ganglion cervicale uteri or the ganglion of Frankenhaeuser. It forms a complex of sympathetic and spinal nerve-fibres passing to the uterus, of numerous ganglion cells, of peri- and endoganglionic connective tissue, and a pretty extensive vascular plexus. It is pre-eminently prone to become diseased by this variegated composition, but also by its exposed location, in the lateral walls of the vagina and in the connective tissue surrounding the sides of the cervix as far as the rectum, where it is liable to be injured by many processes starting from the neighboring large pelvic organs. Its macroscopic structure has been well described by Frankenhaeuser. Microscopically it appears as an organ with distinct outlines formed by a moderately thick envelope of connective tissue through which the nerve twigs pass to the uterus. Each of the polygonal ganglion cells, most of which have two processes, is surrounded by a fibrous ring, formed by the condensation of the connective tissue which is otherwise delicate and provided with numerous nuclei. In an ammoniacal carmine solution, the cells take a handsome stain. The nerves are to a great extent broad trunks with double contours, having a characteristic wavy course. Interspersed here and there are ganglion cells, but only up to a short distance from their entrance into the uterus.

The alterations found in the ganglion during pregnancy are briefly the following: augmentation of all the nervous apparatus, enlargement of the entire ganglion to from one and a half to two times the original size. The connective tissue in the adipose portion has wider meshes, and is otherwise more plentiful. The con-

nective tissue envelope of the several ganglion cells approaches the latter more closely. The cells themselves are enlarged, thickened, increased in numbers. The nerve twigs, much widened and augmented, have more numerous ganglion cells than normally. The blood-vessels are broadened, multiplied, and well filled. Therefore, all the constituents of the ganglion have undergone hyperplasia during pregnancy and have obtained a new accretion of substance—a condition which might have been expected, since the ganglion and its nerves, as is well known, grow during pregnancy to twice their size and beyond.

On normal puerperal genitals, we find alterations of a decidedly retrogressive nature. The nerve twigs and ganglion cells are here and there, sometimes to a greater or lesser extent, filled with a blackish granular mass which a higher power resolves into dark granules or spherules. This is a development of fat. The centrally situated cells of the large main ganglion seem to remain free from the fatty metamorphosis. The latter evidently serves to remove the surplus of the nervous substance which became hyperplastic and new-formed during pregnancy; to restore the status quo ante. Herein lies, in part, the disposition to the simple so-called puerperal atrophy which forms, not alone in the train of rapid wasting diseases, but mainly after a quick succession of deliveries and lactations and grave puerperal affections, and is frequently followed by hysterical disturbances. Aside from a more marked prominence of the peri- and endoganglionic connective tissue in bundles and cords, we find in this condition also a filling with fat granules of the ganglion cells which are diminished in size and number, and their polygonal shape changed into a round one. Nuclei and nuclear corpuscles are not always clearly demonstrable. Besides, we observe here and there glossy small flakes, perhaps the remains of cells or nuclei. The nerve twigs, too, which are decidedly narrowed, show depositions of fat. Here, therefore, the removal of substance by fatty degeneration has proceeded farther, much beyond the normal extent. The recovery from the affection we might imagine to take place in this way, that the physiological process of partial fatty metamorphosis of the nervous elements in the puerperium, under the influence of phthisis, lactation, puerperal disease, etc., first remains stationary, then advances, and leads to simple atrophy. There is nothing remarkable in the circumstance that nervous symptoms appear during the destruction of a portion of the elements belonging to a division of the nervous system which is in direct connection with the sympathetic and spinal systems.

It is altogether different with the nerve apparatus in a second form of atrophy of the pelvic connective tissue, the so-called parametritis chronica atrophicans. In this form, before the affection has attained its highest degree, we find within the cicatricial, sclerosed connective tissue the nerves narrowed and compressed,

the outline of the ganglion indented in many places, contracted throughout and drawn out. The interganglionic connective tissue makes the impression of a mass dominating the plexus almost uniformly. The ganglion cells are shrunken, have lost their polygonal shape, and are throughout pigmented a yellowish-brown color; in many of them the nucleus can only be recognized with difficulty. The emerging nerves are not seriously damaged in this stage of the disease, but they are in the following one, in which they are only sparsely present, narrow, devoid of ganglion cells, here and there disappearing as if broken off in the cicatricial tissue into which the peri- and endoganglionic connective tissue is transformed. In this extreme degree the outline of the ganglion is next to invisible; the ganglion cells are compressed, much sparser than normal, and invariably pigmented yellow. Here we have, therefore, a cirrhotic process—a condition which is of greater interest both in a patho-anatomical and in a clinical respect. The apparatus which supplies the bulk of the pelvic organs with nerves of every functional importance is affected with a grave progressive disease leading to the destruction of its most essential elements—the ganglion cells and a portion of the nerve fibres. It is very probable that the focus lies in the general nervous system which, first irritated by the proliferating connective tissue, becomes diseased, and finally destroyed, and by extending along direct routes causes symptoms in the spinal, sympathetic, and cerebral systems. For some definite forms of hysteria—namely, those occurring in the course of a parametritis chronica atrophicans (these have been minutely described by the father of the speaker), but for them alone—F. believes that disease of the ganglion cervicale uteri has been demonstrated as the cause. In reply to the remark that quite recently in the psychiatric section doubt had been expressed as to the importance of the ganglion cells as central organs, and that when they were deprived of that rôle the correctness of the above explanation would be put in question, F. stated even in that event the above-mentioned alterations of the nerve fibres might well lead to the symptoms in other nerve regions.

(To be concluded.)

REVIEWS.

MANUAL OF THE DISEASES OF WOMEN, being a Concise and Systematic Exposition of the Theory and Practice of Gynecology. For Use of Students and Practitioners. By CHARLES H. MAY, M.D., Late House Physician, Mt. Sinai Hospital; Assistant to the Chair of Ophthalmology, New York Polyclinic, etc. Philadelphia: Lea Brothers & Co., 1885, pp. 357.

The title of this little book is a misnomer. Had the compiler

called it a "Quiz" Compend, he would have described it exactly, for such it is and nothing more. To aid the student in preparing for his examination it will answer admirably. We do not believe the general practitioner will find it of value. To write a "Manual of the Diseases of Women" would seem to require more experience in and attention to the subject treated of than, as a rule, a gentleman just graduated from a medical service in a general hospital, and now devoting his attention to a widely remote specialty, can be presumed to have. We find absolutely no fault with the book. It is a clear and concise statement of diagnostic and therapeutic points culled, as Dr. May tells us in his preface, from the writings of Emmet, Thomas, Mundé, Simpson, etc. As such we commend it, and, within the limits stated, believe it will prove useful to the student. When he begins to practise, however, he must considerably reinforce the knowledge thus acquired by the study of systematic treatises on gynecology.

EGBERT H. GRANDIN.

THE MANAGEMENT OF LABOR AND OF THE LYING-IN PERIOD. By HENRY G. LANDIS, A.M., M.D., Professor of Obstetrics and Diseases of Women in Starling Medical College, etc., etc. Philadelphia: Lea Brothers & Co., 1885, pp. 334.

"The aim of the book is to serve as a guide to practice, divested of all superfluous or irrelevant details." The author has accomplished his aim, and the general practitioner will find within these pages, in concise statement, the leading and essential points in regard to the management of labor and of the puerperal period. Dr. Landis' teaching is eminently sound, usually abreast of the times, and yet tempered by sufficient conservatism. Under the subject of the treatment of placenta previa, we regret to find no reference to the method (Braxton-Hicks') recently advocated by Lomer and others, and we believe that in the treatment of puerperal eclampsia the use of morphia hypodermically has greater weight of authority than Landis grants. We notice, also, on page 41, that, where during labor the anterior lip of the cervix becomes impacted between the head and the pelvis, the advice is given to push it up *during* a pain. This is probably a *lapsus*, but needs correction, for there is no more certain way of lacerating the cervix. The anterior lip should be pushed over the head *between* the pains, and held there by the finger till the recurrence of the next pain.

Beyond these few criticisms, we have simply good wishes for this little manual, and we believe it will meet with the full measure of success it deserves.

EGBERT H. GRANDIN.

THE BRITISH GYNECOLOGICAL JOURNAL, being the Journal of the British Gynecological Society. Edited by FANCOURT BARNES, M.D. Part III. London: Smith, Elder & Co., 1885, pp. 130.

The most important papers in this number are one by Alexander on his operation for shortening the round ligaments, and one by Jamison on a new operation for lacerated perineum.

Dr. ALEXANDER criticises rather severely Dr. Mundé's recent conclusions, published in the *New England Medical Monthly*, May, 1885, concerning the difficulties of the operation, saying that if Dr. Imlach (who states that in thirty-six cases he never failed to find the ligaments, and that a half-inch incision is enough) minimized matters to an extent that was unsafe for the inexperienced to follow, Dr. Mundé's conclusions erred far more in exaggerating the difficulties and uncertainties of the operation.

Dr. Alexander should not have judged others by his own results, or think that no one should find difficulties in what *he* considers easy. The true status of the matter is probably in the middle ground between Dr. Mundé and Dr. Alexander, for while the latter, the father of the operation, naturally is inclined to exaggerate both the ease with which it can be accomplished and the benefits resulting from it, the cases of Dr. Mundé were undoubtedly exceptionally difficult. The following also shows that, though perhaps rare, cases do occur where the ligaments cannot be found. In several instances where I have performed the operation on the cadaver, the ligaments have been easily found and drawn out, except in one, the last subject, who was old and exceedingly fat. In this case, when I had cut down on the right side, I could not find any trace of the ligament on careful search, and on dissection from *within outwards*, the ligament was found to practically disappear in the inguinal canal, as only a few fibres could be traced through the external ring. The same conditions existed on the other side. The difficulty of the dissection was much increased by the quantity of fat present. I am convinced that in a similar case Dr. Alexander himself would have failed in performing his operation.

Dr. Alexander then goes on to give a careful description of the minutiae of the procedure and of the after-treatment and results. The operation seems to be a very certain remedy for retro-displacements, and to be nearly as reliable in prolapsus, in this latter condition it having failed in only one of sixteen cases to effect a cure, and to relieve the symptoms due to these conditions in a large proportion of cases. That this is also Dr. Mundé's opinion is shown by three of his six cases, the first and fifth one being a retroflexion, the other a descensus, which were completely and permanently relieved by the operation. Thus, where the ligaments can be found and drawn out, a successful result may be expected.

The mortality of the operation Dr. Alexander considers as *nil*, though he mentions three cases, one in his own practice, where death occurred, he considering that all three were due to entirely preventable causes. Dr. Lawson Tait mentioned a fourth case where death had occurred as a consequence of the operation, and a case which had occurred in his own hospital, where there were at the time fifteen or twenty cases of abdominal section with none of whom he had any trouble, in which the patient nearly died, being nine weeks in getting well, the temperature going up to 40° C. (104° F.) and pulse to 140. This showing would seem to prove that the mortality is certainly not *nil*, and that there is enough risk in the operation to prevent its performance except where palliative measures have failed, for we certainly are not entitled to submit a patient to possible serious danger except for the relief of serious symptoms.

DR. JAMISON, of Shanghai, details a very interesting case of successful secondary perineorrhaphy where there was laceration through the upper edge of the sphincter ani. The recto-vaginal septum being split for an inch, and lateral flaps of mucous membrane raised in the vagina, the raw surfaces were united, tension being relieved by sliding the skin of the ischio-rectal space inwards, as in plastic operations on the face. The operation, though not at all clearly described, appears to be a good one in certain cases where there is a lack of available tissue to work upon. The flap operations for uniting perineal lacerations were strongly

advocated in the discussion which followed the reading of the paper, the advantages being that less time was required in their performance and that a more substantial perineum was formed; the method being essentially that a flap is taken from each labium, one hinging *in*, and one *outward*, a strip being also thrown outward from the recto-vaginal septum. The *in* flap is first stitched to the opposite denuded wall, then the outer likewise to its opposite, and lastly the strip below is stitched to the cut edges of the lateral flaps.

The arrangement of the journal continues the same as noted in the review of the first numbers.

BROOKS H. WELLS.

THE PATHOLOGY, DIAGNOSIS, AND TREATMENT OF THE DISEASES OF WOMEN. By GRAILY HEWITT, M.D. LOND., F.R.C.P., Professor of Midwifery and Diseases of Women, University College, and Obstetric Physician to the Hospital, etc. A new American from the fourth revised and enlarged London edition. 236 Illustrations. Edited with notes and additions by HARRY MARION-SIMS, M.D., Attending Surgeon to St. Elizabeth's Hospital, New York, etc. Two volumes. New York: Bermingham & Co., 1885.

Dr. Graily Hewitt's work and his peculiar views are so well known to the profession that it is unnecessary to enter upon a detailed review. The popularity of this book is sufficiently attested by the fact that it has passed through four editions, and whilst we cannot pretend to say that we accept the author's views in their entirety, we believe that they have had a very considerable effect in shaping, for good, the belief and practice of a large proportion of practitioners. In the present edition there is no essential change in Dr. Hewitt's teaching, but he has, to use his own prefatory words, "advanced a step further, and have explained, to my own satisfaction at all events, how and why it is that changes in the shape and position of the uterus are so liable to occur; what, in short, are their predisposing causes." The important factor in producing the above changes is lack of systemic strength, due to "a systematic, and often a lengthened, practice of taking little food." In short, the principle Hewitt endeavors to inculcate in this work is the dependence of *local* ailments on *general* ones—a principle but rarely taken into account as much as it should be, and attention to which will frequently render unnecessary zealous local treatment. The author has further devoted considerable space in these volumes to the subjects of hysteria and hystero-epilepsy, and has introduced a number of cases in support of his opinion that the nausea and vomiting of pregnancy are dependent on some cause which interferes with due expansion of the cervix—usually flexion. We notice, with pleasure, as coming from a transatlantic writer, the statement that trachelorrhaphy is a most necessary and valuable operation, although the description of the operation is utterly inadequate.

The additions by the American editor are, in the main, judicious. We would express our surprise, however, that such an atrocious woodcut as the one on page 17, representing the duck-bill speculum in position, should have been countenanced by a Sims. As an instance of hasty revision, we would call attention to pages 74 and 96, where the same note occurs almost word for word. The illustrations in this edition are frequently drawn life-size, and whilst many of them are rather coarse, in general the book is presented in a creditable form.

EGBERT H. GRANDIN.

THE TRANSACTIONS OF THE EDINBURGH OBSTETRICAL SOCIETY.
Vol. X., Session 1884-85. Edinburgh: Oliver & Boyd, 1885, pp.
237.

In one of several well-written papers by DR. FREELAND BARBOUR, he notes four cases, one in his own practice, the others collated, where albuminuria in pregnancy, with well-marked symptoms, had disappeared on the death of the fetus, the mother's health improving markedly. Could a sufficient number of like cases be observed, to show that the occurrence of diminution or stoppage of the albuminuria with death of the fetus in utero is more than a mere coincidence, it would tend to prove that in some instances albuminuria is due to a condition of the maternal blood induced by pregnancy, and would militate against the theory that it is caused by the pressure of the uterus on the ureters, or by change in the vascular tension of the kidneys, the mechanical conditions remaining the same after as before the death of the fetus. I am aware of no other cases besides those reported in Dr. B.'s paper where this same condition has been noted. The subject is worthy of investigation, the extreme paucity of its literature pointing to its rarity or to the fact that cases have not been considered of enough interest to report.

DR. VASSILY SUTUGIN, in a communication treating of the prevention of lying-in fever, speaks very exhaustively of the antiseptic measures he considers necessary in the treatment of puerperal cases, they agreeing in all important details with those now used in the best lying-in hospitals. In speaking of the very slight danger of producing unpleasant symptoms by the free use of the bichloride of mercury solution (1-1,000), he seems to have overlooked the fact that a number of instances are on record of serious and even fatal poisoning from its use, and that where there is a suspicion of renal disease, it should always be used cautiously. We must also take exception to his statement that it is better to leave a portion of the membranes in the uterus, to be expelled later by natural processes, than to risk the introduction of the hand into the uterine cavity, which latter procedure, we believe, when done with proper precautions, to be productive of no harm to the patient that can be compared to that which is likely to occur from the presence of the retained membranes. Continuous pressure over the lower abdomen, which he applies by sand-bags, has also been demonstrated by practical experience to be a superfluous procedure, and in many instances even an injurious one, increasing or producing a tendency to backward displacement of the uterus which is apt to become persistent.

MR. SKENE KEITH, as no proper description is given in any work on diseases of women (*sic*), tells us of the correct way to hold Sims' speculum. We respectfully refer Mr. Keith, for further information, to Mundé's "Minor Surgical Gynecology" (1st ed., 1880, pp. 75 seq., and 2d ed., 1885, pp. 85 seq.), where precisely the same directions are given and illustrated by diagrams.

DR. JAMES CARMICHAEL, in a well-digested paper on "Infant Feeding," starting from the physiological standpoint that mother's milk is the best food for the child, comes to the conclusion, which most of our authorities have already stated, that absolutely fresh cow's milk, suitably treated by the addition of water, sugar, and cream, so as most nearly to resemble human milk, is the best artificial food, and much better for the child than any of the other "infant foods."

In the discussion of the paper which follows, regularity of feed-

ing and scrupulous cleanliness of the feeding-apparatus is most strongly insisted upon, the old-fashioned, boat-shaped bottle being preferred, as more easy to keep clean, and as insuring the attention of the nurse during feeding.

DR. JAMES RITCHIE gives the results of some experiments on milk curd, the milk, after admixture with various substances, being heated to 98°, a little common salt and essence of rennet added, and the whole stirred and left in a water-bath at 98° for half an hour. Pure milk showed a very hard curd in large masses; dilution with water caused the curd to be considerably softer, that diluted with an equal part giving a softer curd than where only one-third was added; acidulation of the milk and water with 0.02 per cent of dilute hydrochloric acid caused the curd to be much harder. Oatmeal, barley, or rice-water, in the proportion of one-third, caused the curd to be in small, soft flakes, and when acidulated, the curd was but very slightly harder. Boiled milk gave a curd in extremely small, soft flakes, but when acidulated, much firmer than in acidulated specimens having gruel added.

One-third lime-water caused the curd to be in small, soft flakes, but when this mixture was rendered faintly acid, the curd was very hard. The curd of human milk was very soft and in small flakes. These experiments confirmed the measure of advantage found in practice by diluting the milk, the great benefit of boiling it, and the marked improvement in quality of the curd if it be kept open by mechanical means, as by the addition of gruels or lime-water. They also show that this benefit is lost, in the case of the lime-water mixtures, if much acid is present, and that under such conditions a softer curd is obtained by mixture with gruels than by boiling only, or by addition of lime-water only.

There are several other interesting papers in the volume, which, though very readable, is hardly up to its usual high standard.

BROOKS H. WELLS.

ABSTRACTS.

1. Winter: A Contribution to the Subject of Premature Detachment of the Placenta in Case of Nephritis (*Ztschrft. f. Geb. und Gyn.*, XI., 2).—The mortality from premature separation of the placenta is 50% for the mother, and in the neighborhood of 95% for the fetus. The etiological factors of this accident are in doubt, and three cases which W. has recently seen tend to throw additional light on the subject. All the mothers recovered, but each fetus was lost, owing to the almost total separation of the placenta. A common factor in these three cases was the existence of a nephritis, and W. suggests that not impossibly premature separation of the placenta may depend on nephritis. From an analysis of one hundred and sixty cases, W. finds that in the majority the etiology is in doubt, whilst in others increase of abdominal pressure, such as results from cough, vomiting, or straining at stool, is stated as the cause. He finds but one case where nephritis was a complication. The hemorrhagic diathesis is a frequent accompaniment of nephritis, and as a result of this diathesis extravasation occurs under the placenta, leading to its separation. The management of these three cases was expectant, instead of following the rule to deliver quickly, and rely on uterine contractions to check the hemorrhage, and therefore W.'s three cases resulted in maternal recovery. He counsels, hence, retention of the membranes as

long as possible in such cases, and believes that rapid delivery is only indicated in those cases where, in spite of the tamponade, the hemorrhage is free.

E. H. G.

2. Benicke: Conception after Curetting of the Uterus (*Ztschrift. f. Geb. und Gyn.*, XI., 2).—It has been made an objection to curetting of the uterus, that thereby conception is rendered difficult, if not impossible (B. Schultze). Düvelius has reported sixty cases where, after curetting, conception did ensue, yet, in the discussion of his paper, no others were familiar with similar cases. B. has, therefore, carefully gone over his records, and is able to report ten cases where conception followed on curetting. Of these ten cases, the operation was undertaken once for the cure of endometritis hemorrhagica, and in nine for the removal of retained membrane. In three of the cases, the operation was repeated, so that altogether it was performed thirteen times. In five of the cases, the conception ended prematurely, but this was not a result of the curetting, seeing that the patients had the habit of aborting. In two of these cases, conception ensued four and five weeks respectively after curetting; in the others, $2\frac{1}{2}$, 3, $4\frac{1}{2}$, up to 17 months after. B.'s conclusion is that the fear lest curetting should interfere with further conception is absolutely groundless; indeed, that in many cases it is an excellent method of preparing the endometrium for a new conception.

E. H. G.

3. Schroeder: A Contribution to the Physiology of the Second and Third Stages of Labor (*Ztschrift. f. Geb. und Gyn.*, XI., 2).—The conclusions deduced by S. from this study are, in brief, the following: during the stage of expulsion, the energetic action of the abdominal muscles is very essential, and, therefore, narcotics, since they calm excitement and diminish pain, are the best promoters of labor. Ergot and its preparations are, as a rule, contra-indicated, since the muscles of the uterus contract of themselves sufficiently. During the third stage of labor it should be remembered that the mechanism through which the placenta becomes detached and is expelled from the uterus is a precise one, whilst the expulsion of the placenta from the vagina is not. The control of the uterus by means of the hand after the birth of the child is, therefore, unnecessary. The placenta will, normally, be soon expelled from the uterus through its contractions, without much hemorrhage. We know that this has happened when the uterus becomes smaller and its lower segment swells out over the symphysis. Then by simple manual pressure, above the placenta in the neighborhood of the contraction ring, we may easily, and without danger, completely expel the placenta. In typical cases, the rational and best method of conducting the third stage of labor is to wait until the placenta has been expelled from the uterus, and then resort to manual pressure. When the placenta is expelled after the manner described by Duncan, then the hemorrhage is apt to be greater, and manual pressure not so effective or simple, since the upper border of the placenta often remains for a time attached at the fundus.

E. H. G.

ITEM.

DR. E. H. GRANDIN has been appointed Obstetric Surgeon to Maternity Hospital, in place of Dr. Mundé, resigned.

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ORIGINAL COMMUNICATIONS.

THE TREATMENT OF PELVIC ABSCESS IN WOMEN BY
INCISION AND DRAINAGE.
WITH REPORTS OF TEN CASES.

BY
PAUL F. MUNDÉ.

IN bringing so well-worn a topic as the operative treatment of pelvic abscess in the female before the profession, I am well aware that I have but little to add to what other authors have already here and there taught, or what has been practised by many surgeons, gynecologists, and general practitioners. Still, I am induced to believe, from cases which I occasionally see reported as more or less extraordinary, and from a certain confusion of statements as to the dangers of interfering with pelvic abscess by free incision, as it is practised elsewhere in the body on generally recognized surgical principles, that there yet exists a doubt as to the proper manner of treating these cases, especially among those of the profession who follow a general line of practice, and see such conditions but now and then. It is, therefore, the object of this paper merely to reiterate and recapitulate the general principles on which cases of pelvic abscess in women should be treated, and to place on record my own individual experience.

In doing so, I distinctly disclaim any attempt at an exhaustive treatment of the subject, or an intention to detract in the smallest degree from the merits of those who have preceded me in the same line of inquiry.

By far the larger proportion of cases of pelvic peritonitis and cellulitis terminate in a gradual absorption and ultimate complete disappearance of the exudation, leaving either no traces whatever, or merely a more or less limited mobility of the uterus, or a vague fulness of the parametrium. This process of absorption may extend over months, and even years, severely taxing the endurance of the patient and the resources of the physician.

The rapid breaking down of the exudation and the formation of an abscess is comparatively rare, and may be considered decidedly the exception. It is most liable to occur when the exudation has formed very rapidly and is very large, and when the recuperative powers of the patient are below par. Suppuration occurs by far more frequently in cellulitic exudations than in those caused by pelvic peritonitis, and is most commonly met with when the cellulitis came on after parturition at term or after an abortion. In cellulitis, it is self-evident that the exudation and, *eo ipso* the abscess, is extra-peritoneal. In peritonitis, the pus, of course, lies in the peritoneal cavity; but the rapid formation of adhesions between adjacent folds of intestines and neighboring organs and tissues closes the abscess-cavity, and separates its contents from the rest of the abdominal cavity almost as securely as when the abscess is extra-peritoneal. This point is of considerable practical importance in deciding as to the safety of tapping or incising a pelvic abscess; for, if the adhesions which shut off an intra-peritoneal abscess from the rest of the serous cavity are sufficiently firm, and if the wall of the abscess is adherent to the abdominal wall, there is no more risk in opening such an abscess than if it were actually extra-peritoneal.

Fortunately, the necessity of making the differential diagnosis between these two conditions does not often occur, since cellulitis far more frequently terminates in suppuration than peritonitis.

In looking over the question of the frequency of pelvic abscess, I have made use of four hundred cases (stopping when I

reached that round number) of pelvic peritonitis and cellulitis, which I found recorded in my private, hospital, and clinical notes. (For assistance in compiling these records, I am indebted to Dr. E. H. Grandin, instructor in my service at the New York Polyclinic, and to Dr. E. Sanders, who succeeded me in the department of diseases of women at the Mt. Sinai Dispensary, when I became gynecologist to the hospital.)

Among these 400 cases, there were 48 of pelvic abscess, or exactly 12 per cent. I think this proportion large, but its size is accounted for by the fact that many of these cases occurred in the practices of other physicians and were only seen by me in consultation, and were therefore selected cases; thus 21 were consultation cases, and 27 occurred in my own practice.

Of these 48 cases of abscess, 23 opened spontaneously (14 into the rectum, 5 into the vagina, 3 into the bladder, and 1 through the abdominal walls); 16 were diagnosed and successfully treated by aspiration; 1 was diagnosed by aspiration, but passed from under my care before free evacuation of the pus could be accomplished (she went to a hospital); and 8 were treated by free incision and drainage, 6 through the abdominal wall, and 2 through the vagina. In three of these last cases, abdomino-vaginal drainage was instituted, a vaginal outlet being added to the abdominal incision. All of the cases which were operated on recovered. Indeed, I have seen but one case of pelvic abscess, a forlorn case to which I was called many years ago, and which is not included in this list because I never learned its sequel, which I considered fatal. Some were incurable, chiefly old abscesses with high rectal perforations which it was impossible to reach; others dried up temporarily only to refill at slight exciting causes; but none of the patients seemed to me in danger of their lives from the abscess, except the lady referred to, whose pelvis was literally honeycombed with sinuses, which opened into the vagina, bladder, rectum, and through the abdominal wall, gluteal, and femoral regions. The lady, I was told, had been given up by Dr. Sims and other eminent gynecologists, and I do not see how her system could stand the strain and waste much longer.

Three of the abscesses which opened or were opened in the vagina proved to be suppurating dermoid cysts of the ovary.

When I suspect suppuration in a pelvic exudation, which I

do either because the swelling persists undiminished, long after nature should by rights have absorbed it, or because it becomes puffy, doughy, and boggy to the touch, or because distinct fluctuation can be felt, I first proceed to verify my suspicion by the aspirator, and having discovered pus, if the quantity is presumably small, attempt to remove it all by aspiration through the vagina, where the suspicious point is usually most prominent. I have had an aspirator made, with a long metal tube provided with a stop-cock, to which tube I first attach a hypodermic syringe, and when pus is found, close the stop-cock, and substitute for the hypodermic a larger syringe holding about one ounce; opening the stop-cock, I then withdraw all the pus by repeatedly filling the syringe, if necessary. If there are a number of small abscesses, so-called multiple abscesses, repeated introduction of the needle may be required (I have done so seven or eight times) at different spots, in order to remove all the pus. I read a paper on this subject, the cure by aspiration of small doubtful pelvic abscesses, before the Academy of Medicine of New York, in December, 1880 (see Seguin's *Archives of Medicine*, December, 1880), in which I reported eight cases of obstinate pelvic exudations, with small multiple abscesses, cured by vaginal aspiration alone. Since then, I have doubled that number, and have had no occasion to regret my action, if I took care to confine myself strictly to small abscesses containing less than two ounces of pus. In no case did I observe an unpleasant reaction follow the aspiration, and in every case where pus was obtained, and in a few where it was not, the exudation made a rapid progress to complete absorption.

To insure success by this method of simple aspiration (without incision and drainage, understand), it is absolutely necessary that the abscess cavity be so small as to permit of its contracting and closing when its contents are removed.

CASE I.—*Pelvic Abscess. Unsuspected Dermoid Cyst; Aspiration. Refilling of Abscess. Finally, Cure by Vaginal Incision and Drainage in Woman's Hospital.*

Only once have I had occasion to regret having neglected this rule, in a case of unsuspected dermoid cyst of the ovary, which went to a hospital before I had the opportunity to make a large incision. In that case, detecting fluctuation in the vaginal vault, I aspirated, and at once found pus. I

could not resist the temptation to empty the abscess at once, especially as the patient was exceedingly nervous, and I feared would not consent to a more thorough operation under anesthesia (indeed, this is precisely what occurred when I afterward proposed to incise and drain the abscess). Consequently, I adjusted my larger syringe and withdrew about a cupful of inodorous pus. Contrary to my expectations, the exudation did not disappear (for a very good reason, which I then did not suspect), the patient did not improve, and slowly pus began to form. The patient now declined more active operative interference, and requested a consultation with Dr. Thomas, who saw her and fully agreed with my diagnosis and treatment. As she was in a boarding-house, with unsatisfactory accommodations as to nursing and care, her wish to go to the Woman's Hospital met with my hearty approval. A month or more later, Dr. Thomas wrote me that he had just opened the abscess *per vaginam*, it having taken all that time for the pus to accumulate in sufficient quantity, and, on passing his finger into the cavity, had found it to contain locks of hair—a discovery which was quite as much a surprise to him, he wrote, as he knew it must be to me. The patient subsequently made a perfect recovery.

The original cause of the suppuration was thus made clear, as well as the failure of the exudation to disappear after I had evacuated the pus by aspiration.

My regret in connection with this case has been that I allowed myself to be influenced by the hope that mere aspiration might suffice, and by the timidity of the patient, instead of insisting on thoroughly opening and draining the abscess at once, when I would have discovered the dermoid cyst. I wish to emphasize the lesson taught me by this case, not to trust to aspiration alone when the quantity of pus exceeds from one to two ounces, because the pus is almost sure to reform and the exudation to persist so long as free drainage is not secured.

Accordingly as a pelvic abscess points toward a spot where it can readily be reached by the knife, or opens in some inaccessible cavity, such as high in the rectum or in the bladder, is the operative treatment easy or difficult.

In many cases the pus finds its way through the anterior wall of the rectum in the neighborhood of the third sphincter, that is, too high to allow the opening to be touched or exposed through a speculum. The perforation is generally small, the abscess extends below the level of the opening, and consequently pus accumulates until it reaches that level, when

it is voided into the rectum, and escapes into the vessel when the bowels are moved. This anatomical fact explains the occasional discharge of pus from the rectum in such cases, and the freedom from the discharge for weeks or months.

The therapeutical indication in these cases is either to enlarge the perforation, or what is much better and more feasible, make a new opening at the most dependent portion of the abscess in the most accessible passage, that is, the vagina. As a rule, the rectal perforation is situated too high up to enable it to be reached and enlarged. The best we can do is to endeavor to pass a long bent sound through the rectum into the abscess to its very bottom, and press down with it the vaginal roof, so as to know where to make the counter-opening. Unfortunately, it is seldom possible thus to pass a sound, for few have sufficiently long fingers to act as guides; and the introduction of the hand into the rectum, after Simon's method, is not permissible in these very cases of pelvic exudations and adhesions. To reach the perforation by means of forcibly dilating the anus, as recommended by some authorities, will be possible only when the opening is pretty low down, not more than five or six inches from the anus. When the rectum is inclosed in a rigid mass of exudation, it cannot be stretched and inverted as in the normal flacid state. Indeed, it is very questionable whether in any event the rectal perforation should be enlarged, even if it can be easily and safely done, since the entrance of feces into the abscess-cavity would increase the discharge, and bring about additional exudation. Further, the abscess rarely contains sufficient pus, or we do not happen to examine when it does, to give distinct fluctuation, and thereby offer a guide for puncture. Hence the formation of a counter-opening in the vaginal roof is often either impracticable or a risky proceeding; and we have to grope about with an exploring needle, or leave the patient to nature, limiting our treatment to hot vaginal and rectal douches, and frequent digital expression of the pus per vaginam. Such patients may carry their abscesses about with them for years, and experience comparatively little discomfort from them, except the occasional purulent evacuations from the rectum.

In aspirating or incising pelvic abscesses through the vaginal vault, it is well to remember that a certain amount of risk

is incurred thereby, namely, the possibility of wounding one of the branches of the uterine artery, which can usually be felt pulsating behind or on either side of the cervix. Reeves Jackson, of Chicago, has reported a case of fatal internal hemorrhage after puncture of an unrecognized artery during diagnostic aspiration in a supposed case of pelvic abscess. Clinton Cushing, of San Francisco, has devised a very ingenious instrument, shaped like a glove-stretcher with sharp points, with which he opens the abscess, and then, by separating the blades, dilates the opening and insures free drainage, without the danger of wounding a vessel with the knife.

The opening of the abscess with the long needle tip of the Paquelin cautery also guards against hemorrhage, and keeps the canal patulous. The possibility of wounding the ureter, which runs about one inch to either side of the cervix, should also be borne in mind.

If the abscess happens to burst into the bladder, it is even less easy to reach, and our efforts are almost wholly restricted to irrigating the bladder and preventing that viscus from catarrhal inflammation. This variety of pelvic abscess usually heals soon, because natural drainage is better provided for than in rectal perforation.

When the abscess opens through the vaginal roof, generally to one side or behind the cervix, drainage is mostly so perfect that, as the exudation is absorbed, the abscess cavity also contracts and closes. A necessary condition for this happy termination is that the opening remains sufficiently large to permit free drainage. If the opening was originally small, or contracted in course of time so as to be plugged temporarily with inspissated pus, or by a fold of mucous membrane, and to be opened only when the overflowing pus forces its way out, then the abscess will remain active, more or less constant discharges of pus will take place into the vagina, and as time passes, it will be found impossible to secure a contraction of the cavity or its obliteration by granulation. The indication here is plainly to enlarge the opening at an early day, in order to insure constant free drainage, to scrape away the secreting granulations in the cavity with a dull or sharp curette, and stimulate its walls to adhesive inflammation.

I have succeeded thus in one case of suppurating dermoid

cyst, and have failed in another case of simple pelvic abscess of fifteen months' duration. If the opening can be maintained sufficiently large to prevent any accumulation whatever of pus in the cavity, no drainage tube is required; the erect posture suffices. But otherwise a drainage tube (generally of stiff rubber) is needed, which can be retained by transfixing it crosswise near its upper end with a small piece of perforated tubing.¹ The flexibility of the tube allows its introduction, and when in the abscess the crossbar straightens out, and possesses sufficient stiffness to insure its retention. If it should slip out, however, or if it irritates, or if, as is liable to occur, the tube becomes clogged with thick pus and shreds, antiseptic and slightly stimulating injections into the abscess must be made daily once or twice by the physician or a trained nurse. Occasionally, the frequent insufflation of iodoform may effect a cure. Unfortunately, even chronic cases are liable to react on this frequent manipulation, and a fresh exudation and a new abscess may form and put a stop to active local treatment. I regret to say that I have but little hope of being able to bring about the closure of old pelvic abscesses, the walls of which have become indurated, and which bear scraping and irritant treatment badly.

This remark does not apply to more recent abscesses, in which the removal of the broken-down cellular tissue by the finger or the curette, and the subsequent thorough irrigation of the cavity, are necessary requisites to a cure.

This use of the curette is not new; Dr. Byford recommended it in a paper read before the American Gynecological Society in 1883; I practised it in a case of suppurating dermoid cyst in 1876; and I doubt not that many other gynecologists use it.

Some pelvic exudations extend not only down into the pelvic cavity (I have seen them in the recto-vaginal septum nearly down to the perineum), but also work their way over to the iliac fossa and into the supra-peritoneal cellular tissue of the anterior abdominal wall, dissecting off the peritoneum from the ilium and anterior pelvic wall, and forming a hard, brawny swelling apparently immediately under the skin of the hypogas-

¹ In the Dec., 1885, No. of the Pacific Med. and Surg. Jour., I notice that Dr. Clinton Cushing, of San Francisco, describes the same device. I used mine first in a successful case of vaginal hysterectomy in Oct., 1884.

trium. Such exudations are rather prone to suppurate, and the pus will then usually point toward some point to the side of the median line, toward the crest of the ilium. If the abscess was slow in pointing, the mass of exudation in the pelvic cavity proper breaks down, and we may have an enormous abscess, holding six ounces to a pint or more of pus, which, if the abscess is not soon opened, may burrow its way by tortuous sinuses between rectum and vagina, and perforate into one of the cavities of the pelvis or through the skin of the gluteal region, or in the worst case into the peritoneal cavity. Fortunately, the latter accident is rare, since the plastic adhesions engendered by the exudation act as a protective to the peritoneal cavity.

The indication in these cases obviously is to follow the old surgical rule and give exit to the pus as soon as, and where it can be most distinctly felt, whether this be in the abdominal region or in the vagina.

If a soft, boggy, more or less fluctuating spot can be detected in the abdominal exudation, an aspirator or exploring needle should be thrust into it, and if pus is found, a grooved director should be inserted, and the abscess thoroughly opened with a blunt-pointed bistoury. All sinuses should be explored with the probe or finger, and thoroughly opened. In doing this, branches of the superficial epigastric artery may be severed, and should at once be twisted or ligated. There is no other danger in these incisions, since the abscess has nothing to do with the peritoneal cavity, and the bladder has been pushed back or aside by the exudation. It may at times answer to make two incisions at distant points of the abscess and draw a drainage tube through them, with a bridge of skin between; but, as a rule, the freer the opening the sooner will the abscess heal. The abscess-cavity should then be well cleared of débris, irrigated, and mopped dry, a rubber drainage tube is introduced, and packed around with iodoform gauze. This dressing must be renewed once or twice daily, and the cavity kept well cleaned and aseptic by irrigation with corr. sublim. sol. 1 to 5,000. If the abscess is properly drained, and if the patient's health is improved by tonics, etc., a few weeks will probably suffice to close the abscess and restore the patient to comparative health.

If the pus has burrowed deep down into the pelvic cavity so that a probe passed to the bottom of the abscess can be felt through the vaginal vault, the abdominal incision alone will usually not suffice, since perfect drainage will be next to impossible, and pus will almost surely remain hidden in pelvic sinuses and retard closure of the abscess. Hence it is imperative to make a counter-opening in the vaginal vault, and to keep it open it is necessary to pass a drainage tube through from the abdominal incision into the vagina and retain it there until the gradual closure of the abscess calls for its substitution by a smaller one, and ultimate removal. The tube may then either be gradually drawn up toward the abdominal wound, if the pelvic part of the abscess closes first, or down into the vagina, if the abdominal part of the cavity shows the first tendency to granulation. In making the counter-opening into the vagina, the vaginal wall is pushed down and projected by a stiff sound in the sinus, and with a knife or scissors an incision is made large enough to draw a drainage tube through of the size of a lead-pencil. The tube may be tied to the top of the sound, and thus drawn up, or a canula may be used as a guide into which the end of the drainage tube is forced. Care must be taken, in drawing the end of the sound, with the drainage tube tied over it, through the sinus, not to use force, or if an obstacle is met with, to push the point of the sound into the vagina again, and to try to make it as smooth as possible. Twice in drawing the sound and tube through from the vagina have I felt it catch, and in giving it a little jerk, have felt it pass, but at the same moment a gush of watery fluid took place into the abscess-cavity and from the vagina, and it turned out that the bladder, which was firmly adherent to the abscess-wall, and doubtless very brittle, had been ruptured. Careful irrigation of bladder and abscess resulted in a speedy, perfect closure of the rent.

When vagino-abdominal drainage has been secured, daily antiseptic injection should be practised, and as the patient's general health improves, she may be allowed to leave her bed and even go out of doors, while wearing the tube. I have thus had two women walking about and attending to their duties for over six months, while wearing complete drainage tubes. The principles of free evacuation of pus, utmost cleanliness,

and thorough drainage, so universally recognized in general surgery, apply with equal force to the treatment of pelvic abscess in the female.

Dr. W. M. Polk, at a recent meeting of the New York Obstetrical Society, reported an interesting case of a suspected small abscess deep in the pelvic cavity opposite the ischiatic spine, in which fluctuation could not be detected through the vagina. Feeling sure that deep-seated pus existed, he cut down from the abdominal wall, pushed up the peritoneum, found the abscess by the aspirator, opened and drained it, and the patient recovered. It is seldom necessary, and not often thought safe to cut down on such deep-seated accumulations of pus in the pelvic cavity; indeed, they can almost always be more easily reached through the vagina. And it would seem that vaginal drainage would be preferable, in such cases, to the abdominal exit chosen by Dr. Polk. The abdominal opening could then be wholly or partly closed, and an abdomino-vaginal drainage tube inserted.

This treatment is in no sense novel. Lawson Tait reports a number of successful cases operated on with his usual boldness and dexterity; Clinton Cushing, of San Francisco, has published two, and I have seen Dr. Lusk operate once in this manner. At the Obstetric Section of the last American Medical Association, Dr. Christian Fenger, of Chicago, read a paper on the "treatment by laparotomy of chronic peri-uterine abscess," and Dr. Sutton, of Pittsburgh, "reported one case of laparotomy for pelvic abscess with good recovery." Doubtless every busy gynecologist and many a general surgeon has had occasion to test the correctness of the principle, not to be afraid of the length of the incision, if the size of the abscess warrants it.

Intra-peritoneal abscesses are fortunately not so common as those in the cellular tissue of the pelvis and abdominal walls. And in the former, adhesions between the intestines and the abdominal wall are often so dense as to render the abscess practically extra-peritoneal. When the abscess then points through the abdominal wall, its incision, while really a laparotomy, does not open the free abdominal cavity, and is usually no more dangerous than that of a simple pelveo-parietal abscess. Of course, care must be observed not to break down the adhesions and open the healthy peritoneal cavity. Even in such cases drainage into the vagina may be practised, as illustrated

by case V. Other sacculations of pus, such as pyo-salpinx and intra-peritoneal abscesses which do not become adherent to and point through the abdominal wall, call for true laparotomy, precisely as in the removal of uterine and ovarian tumors. If the sac containing the pus cannot be extirpated, it should be incised, and its edges stitched into the abdominal wound, and the sac treated by drainage and irrigation.

The mistake of calling the incision of a pelvic abscess which points through the abdominal walls a "laparotomy" appears to have been made by various authors and speakers. Thus Atlee, in his work on "Ovarian Tumors," cites the case of L'Aumonier, of Rouen, as the first ovariologist, whereas the operation really was nothing but the opening of a "pelvic abscess, which he opened by an incision through the wall of the abdomen above Poupart's ligament" (Spencer Wells, "Abdominal Tumors"), and quite recently I heard gentlemen at the meeting of the American Gynecological Society in Chicago, in October, 1884, when discussing the subject of exploratory incision for abdominal diagnosis, speak of having opened abdominal abscesses, as though this operation was necessarily identical with laparotomy for abdominal, that is, intra-peritoneal tumors, and not in the majority of cases a simple incision into the abscess through the abdominal wall, precisely as an abscess is opened elsewhere in the body. I then criticised this confusion of terms and conditions, and cannot help emphasizing the matter in this article. As I then said, the incision of a pelvic abscess pointing through the abdominal wall is not "exploratory;" the exploration has been made with the aspirator. The incision is distinctly curative, and is only a laparotomy in so far as that word means "incision of the flank" (*λαπάρα*, flank, and *τέμνω*, to cut), but it is not intra-peritoneal, except in the cases above mentioned. And I wish it distinctly understood that this article treats only of pelvic abscess proper, that is, of abscesses forming by the supuration of plastic exudations in pelvic peritonitis and, chiefly, pelvic cellulitis.

A novel and highly interesting method of influencing the size of the plastic exudation, and the healing of the resultant abscess, is reported by Dr. Wm. T. Baird, of Albany, Texas, in a recent number of the *Atlanta Med. and Surg. Journal*. In a tedious case of pelvic cellulitis with the exudation most

prominent in the right iliac region, the doctor first relieved pain, and improved the general health by daily applications of the faradic current to the exudation (one pole over the sacrum, the other over the tumor) and after about a month aspirated the pus which had formed during that time, injected the cavity with a solution of common salt, and passed a galvanic current through the abscess and exudation, connecting the aspirating needle with the negative pole, and placing the positive pole on the abdomen one inch distant. He began with two cells, and increased to six, and continued the sitting until the whole operation (aspiration and all) had occupied three hours. The pus did not re-form, the patient was sitting up in a week, and a month later she had entirely recovered.

I will close this article by a recital of the illustrative cases (not very many of them, as they are fortunately not very common) which have come under my observation.

CASE II.—Pelvic Abscess; Suppurating Dermoid Cyst; Curette; Cure.

Mrs. E. H., æt. 35, multipara, came under my observation in 1876 for a purulent discharge from the vagina, following pelvic inflammation, the remains of which could be felt by the finger. A specular examination showed pus oozing from the posterior cul-de-sac, and a sound readily entered about two inches. Dilating the sinus gently with dressing forceps, I introduced Thomas' dull curette, and scraped out the abscess cavity. On withdrawing the curette, I noticed a dark shred protruding from the abscess, which, being seized and drawn upon, proved to be a tress of hair some six inches in length. Another such tress was removed at a subsequent visit. The nature of the abscess was thus made clear, and after removal of the irritant contents, under hot douches the exudation gradually disappeared, and the abscess closed.

I have seen one other similar case, where the hair had come away spontaneously, and was shown me by the patient when she came under my care, with the abscess nearly obliterated.

CASE III.—Pelvic Abscess pointing in Vagina; Aspiration; Free Vaginal Incision; Drainage; Recovery.

F. K., 30 years, married, multipara, no abortions. Admitted to my service in Mt. Sinai Hospital November 2d, 1884, with large pelvic exudation on left side. Fluctuation was detected after several weeks, and on December 5th pus was withdrawn with the aspirator. As there seemed to be more than an ounce of pus, it was decided to make a free opening. A grooved exploring needle was introduced, and the abscess freely opened with the knife. The cavity was gently scraped with the dull curette, and irrigated with corrosive sublimate solution; a tent of iodoform

gauze was pushed into the abscess, in preference to a drainage tube, which was more likely to slip out, and the gauze was renewed daily.

January 2d, 1885, patient discharged cured.

CASE IV.—Pelvic Abscess, Spontaneous Opening in Vagina Fifteen Months before; Enlargement of Opening; Curette; Irrigation; Failure.

Mrs. W. D., 42 years of age, mother of one child, consulted me in October, 1884, for a pelvic abscess which had existed since a severe attack of cellulitis fifteen months previously. The persistence of purulent discharge from the vagina troubled the patient mentally much more than it did physically; she feared she would never recover, and was gradually sinking into a melancholic state. Her husband became alarmed, and consulted his family physician, who had told them of the presence of the abscess when it first broke, but who now refused to do anything for the patient, believing an attempt to cure the abscess to be too dangerous. This information still more depressed the patient. On examination, I found the uterus immovable; in the posterior cul-de-sac a small opening which admitted a uterine probe, but not a sound, from which a few drops of pus oozed out, through which the probe could be inserted to the depth of nearly three inches, upward and backward. The point of the probe could be swept about as if in a cavity. The natural inference was that this cavity could not contract because the minute size of the opening prevented free and constant drainage of pus, which could escape but slowly, and therefore the cavity was never entirely empty. To cure the abscess, it was necessary to enlarge the opening, keep it well open, and, if necessary, irrigate the cavity with antiseptic and with stimulant lotions. In view of the influence which the local trouble seemed to have on the mental condition of the patient, I thought it justifiable to make an attempt to heal the abscess, believing that an improvement in the latter would surely be followed by a corresponding brightening of the mind. Consequently, I enlarged the sinus between the abscess and vagina with a bistoury, gently scraped out the cavity with a dull curette, and washed it out with carbolyzed water. To prevent closure of the sinus, I introduced a rubber drainage tube with a transverse flange, and put the patient to bed. There was no reaction; but it was found that the drainage tube was necessarily too small to allow the escape of the pus, and that this could be effectually done only by direct irrigation. The drainage tube was therefore removed, and the nurse, an exceedingly competent woman, was taught by me to introduce the point of a long silver double catheter into the abscess, and to wash it out twice daily with a dilute solution of permanganate of potash. Daily hot vaginal douches were given besides. After about three weeks of this treatment, I thought I could detect that the catheter entered only about 2" into the cavity. To hasten matters, I introduced a

speculum, and injected about a drachm of tr. iodine into the abscess. No reaction followed, but, unfortunately, no improvement either. The irrigation was continued, until one night about a week later, without any premonition by rise of pulse or temperature, a profuse discharge of exceedingly offensive bloody pus suddenly took place from the vagina, followed by slight symptoms of collapse from which the patient soon rallied. Another abscess had insidiously formed above the old one, had burst, and left matters, to say the least, in *statu quo ante*.

I now limited the treatment to simple hot vaginal douches, and left the abscess "severely" alone. The patient's mental condition at first had seemed to improve, but as it became evident that the abscess was not healing, she grew more and more melancholic. I called Dr. E. C. Seguin to see her with me, and finally placed her entirely under his care, since it was evident that the abscess would not bear much handling. I have no doubt it still discharges as it did when I first saw her. Before I put her under Dr. Seguin's care, the discharge had diminished to its original quantity.

I was very much disappointed at my failure to cure this case, having been successful in a previous one, that of dermoid cyst just related (Case II.), where the sinus had also existed for some time. But I doubt not that the character of the sac and the removal of the exciting contents in Case II. account for the closure of the abscess.

CASE V.—General Peritonitic Adhesions. Intra-peritoneal Abscess. Sinus opening at Umbilicus and extending down to Pelvic Floor. Counter-opening in Vagina. Drainage Tube from opening to opening. Improvement.

Mrs. L., about 30 years of age, was seen by me in 1883 in consultation with Dr. A. Mayer. Four years previously she had a severe attack of general peritonitis following an abortion. After some months of illness she apparently recovered, but the whole abdomen remained hard and inelastic, and a small opening formed about an inch below the umbilicus, from which thin serous pus oozed continually. The general health of the patient improved, and she was able to go out of doors, but the purulent discharge kept on. Finally she consulted Dr. Mayer and he asked me to see her. I found a well nourished, but exceedingly nervous woman, whose abdomen was absolutely rigid, and near the umbilicus the small fistulous opening referred to. After repeated gentle manipulations, I succeeded in passing a uterine probe, and afterward a uterine sound, through the sinus leading from the external opening downward until all but the handle had disappeared. The point of the sound turned to the right in the pelvic cavity, and on being slightly withdrawn, passed straight down and could be felt through the anterior vaginal wall, just above the symphysis pubis, to the right of the urethra. Passing the

sound straight back from the fistula it passed in easily 4 to 5", apparently touching the vertebral column. It was thus perfectly evident that the sinus was intra-peritoneal, the intestines having been glued together throughout.

Although but little prospect existed for a complete absorption of the adhesions and a re-mobilization of the intestines, it seemed desirable to try to close the sinus. Hence I advised making a counter-opening in the vagina and draining the whole canal. This was done, and a rubber drainage tube drawn through, the lower end of which was allowed to protrude from the vagina, while a knot was tied in the upper extremity to prevent its slipping down. Daily irrigation with warm carbolyzed and mildly iodinated solutions were made, without much result, beneficially or otherwise. Dr. Mayer subsequently replaced the rubber tube with one of silver, which was neater and less liable to become offensive, and this was worn for months; but so far as I have learned the sinus has not closed. The patient came to see me once with a lady whom she brought to me for treatment, and then seemed perfectly well, wearing her tube and irrigating and draining. But the abdomen remained hard and the sinus open.

A curious feature in this case is that the patient became pregnant after I saw her, and while wearing the drainage tube, and miscarried at an early month. That she should conceive when her abdominal organs, and therefore the ovaries, were apparently so thoroughly surrounded by adhesions, seems remarkable.

I am not greatly surprised at the failure in this case, when I consider the length of the sinus, the extensive intestinal adhesions, and the duration of the disease. It was hardly to be expected that all these adhesions could be absorbed so as to permit the walls of the sinus to approximate and unite.

CASE VI.—Enormous Abscess Pointing in Left Iliac Fossa; Large Abdominal Incision; Counter-opening in Vagina; Accidental Rupture of Bladder; through Drainage; Complete Recovery.

Mrs. B. F., æt. 27, was admitted to my service in Mt. Sinai Hospital in the summer of 1882, for an enormous pelveo-abdominal exudation, which after blisters and poultices finally pointed in the left iliac fossa. The abscess was opened by a small incision by the house surgeon in my absence, and drained, but it failed to heal, discharged enormously, and the condition of the already greatly debilitated patient began to grow serious. I therefore explored the abscess thoroughly with probe and finger, and found that it extended not only almost beyond the median line and into the left inguinal canal superficially, but down into the pelvic cavity to the left of the bladder, where the probe could be felt through the anterior vaginal wall. I at once enlarged the abdominal incision, opening each superficial sinus thoroughly, and made a counter-opening into the vagina. While drawing a

flexible rubber drainage tube, slipped over and tied to the point of the sound, into the vaginal incision, it seemed to catch, and by a quick jerk I drew it past the obstacle well into the sinus. Immediately a gush of watery yellowish fluid poured into the wound and from the vagina, which proved to be urine. The adherent and fragile bladder-wall had been torn, and my consternation was great. I at once placed a velvet-eye catheter into the bladder, attached it by tape to one thigh, so as to insure continual escape of the urine through the natural orifice; ordered vesical irrigation several times daily with warm borated water and frequent antiseptic irrigation of the abscess track which was packed with lint soaked in Peruvian balsam. In less than a week no more urine escaped through the abscess; the catheter was removed; in a month the abscess had partly healed by granulation, and the drainage tube was withdrawn. In three months the patient was discharged well, the abscess having entirely healed.

CASE VII.—Large Abscess obscurely pointing in right iliac Fossa. Aspiration and then free Incision, wounding several Arterial Branches; Packing of Abscess. Irrigation. Complete rapid Recovery.

S. B., æt. 30, entered my service at Mt. Sinai Hospital on Oct. 16th, 1882, for a large plastic exudation, filling the whole left half of the pelvis and extending up into the iliac fossa.

The deposit failed to be absorbed; neither did it point distinctly in any direction; but an obscure sensation of fluctuation was finally detected in the left iliac region, aspiration revealed pus, and I made an incision which I was obliged to extend nearly six inches. In doing so, several branches of the superficial epigastric artery were divided, and were twisted or ligated with some difficulty. The abscess was drained, packed, and irrigated, as usual, and rapidly filled up. Patient was discharged cured on Jan. 20th, 1883.

CASE VIII.—Pelvic Abscess, pointing in right iliac Fossa. Sudden rise of Temperature and Collapse, causing Suspicion of internal Perforation; immediate free Incision of Abscess; Drainage. Fall of Temperature. Rapid Recovery.

R. B., 20 years, one child, no abortions, confined five weeks ago. Admitted to my service at Mt. Sinai Hospital April 17th, 1884, for pelvic cellulitis. Treated by blisters and poultices. May 12th, a slight reddish discoloration of the skin, and a puffy sensation over the space of an inch square in the right iliac fossa led me to suspect suppuration and pointing, and to say that the abscess would be ready to open in a day or two. Chancing to pass through the ward the next morning, I noticed screens around this patient's bed, and going behind them found her lying on a rubber bed, covered with wet sheets, which were continually being drenched in cold water. On inquiring the cause, I was told that the patient had suddenly developed a temperature of 105.2° that morning, with a small, feeble pulse. The latter I found, indeed,

almost imperceptible. This looked very much like internal perforation of the abscess. So, without hesitation, I called for a bistoury and grooved director, and without any anesthetic, which I was afraid to give in the patient's collapsed condition, made a free incision through the abdominal walls into the suspected spot, and was rewarded by a gush of six to eight ounces of exceedingly fetid pus. The cavity was thoroughly washed out, drained, and packed with iodoform gauze. No perforation into the peritoneal cavity could be found; the patient rallied at once. The next day the temperature was 99° and she recovered rapidly, being discharged well on July 7th.

What produced the sudden collapse here I do not know, for certainly no perforation had occurred. Perhaps it was imminent, or was it a case of acute septicemia?

CASE IX.—Pelveo-Abdominal Abscess pointing near Median Line in Hypogastric Region; Incision, Drainage; eventually Counter-Opening in Vagina; Accidental Perforation of Bladder; Spontaneous Healing in twenty-four hours; Drainage-Tube worn for over six months; Gradual Withdrawal of Tube and Closure of Sinus.

A. H., æt. 48, widow; four children, six miscarriages. Admitted to my service at Mount Sinai Hospital June 7th, 1884, with large abscess pointing in median line about midway between umbilicus and pubis. Freely opened June 11th; cavity packed with iodoform gauze; abdominal drainage.

August 25th. Abscess cavity no smaller. I, therefore, gently pushed the pointed end of a probe down toward the vagina, when it suddenly slipped and entered the bladder, as was shown by a gush of urine. A second attempt found the correct path, a counter-opening was made in the anterior vaginal wall, a drainage-tube drawn through, and attached above. A catheter was put into the bladder, and after twenty-four hours the urine was passed normally, and nothing further was heard of the vesical rupture. The drainage-tube was worn constantly until November, the sinus gradually contracting. In order to permit its complete closure, and still maintain a slight amount of drainage as long as necessary, the house surgeon, Dr. J. C. Stewart, attached a piece of silver wire to the upper end of the drainage-tube, and drew the tube down until the upper half of the sinus was occupied by the wire, the lower half by the tube. Thus drainage through the vagina was maintained, while closure of the upper half of the sinus was not interfered with. The wire was attached to a leaden plate which covered the abdominal fistula. The patient was discharged November 23d, and wore this contrivance until the spring of 1885, when she visited me at the Polyclinic in very good health, the sinus being reduced to the size of the wire. I remove the drainage apparatus entirely, and the sinus closed completely.

CASE X.—Abscess pointing in Median Line midway between Umbilicus and Pubis; Aspiration gave Pus with feculent Odor. Free Incision, Irrigation. Proved to be Perityphlitic Abscess simulating Pelvic Abscess.

M. S., multipara, consulted me in 1875 for acute pain in the right iliac region. The symptoms pointed to impending cellulitis, but examination showed no exudation. I ordered a blister, poultices, and rest. About a week later, I was sent for to see her at her residence. I found a fluctuating protrusion in the median line about midway between umbilicus and pubis, which I took for a pelvic abscess. The next day I aspirated it, and was much surprised to notice a distinct fecal odor in the thin, brownish fluid removed. Of course, the nature of the abscess was now apparent. Fortunately, no harm had been done; I made a free incision, washed and drained the perityphlitic abscess, and the patient recovered, although a small fistula persisted for the better part of a year.

For some reason, perityphlitis is less common in women than in men, or this error of mistaking such an abscess for true pelvic abscess would occur more frequently. I was misled, of course, by the pointing of the abscess in the median line, instead of to the very outside of the iliac fossa, where perityphlitic cellulitis usually occurs.

I cannot refrain from relating briefly the case of a boy of 14, who was under my care about ten years ago, shortly before I gave up general practice. He had ostensibly injured his right side, alighting from a horse-car (he was lame and walked on crutches), and complained of pain in the right iliac region. But there was no swelling, no tumor whatever to be felt there, and but little pain on pressure. His tongue was coated, and he had very slight fever. His bowels were regular, so I was informed, and he passed water naturally. I supposed it to be a case of mild gastric fever. Some four or five days after he was taken ill, his mother told me that his bowels were swollen, and I discovered a regular ovoid swelling in the hypogastrium, reaching almost to the umbilicus. It was tense, not tender, and distinctly fluctuating. I at once thought of the distended bladder, and mistrusting the boy's statements about his urine, introduced a catheter; but only a few drops of urine escaped, and still the tumor was there. I then announced my intention to aspirate it the next day, to see what it was; for I confessed that I was in a quandary. In arriving with my aspirator the next morning, the mother told me that Frank had awakened her at night and told her that something had broken inside of him, and that he was all wet. She found him lying in a pool of the most offensive fluid. He asked for the chamber-vessel, and she showed me what he had passed from his bowels: the vessel was half-full of excessively putrid pus. The mystery was solved: he had a peri-, or rather retrotyphlitis; an

abscess insidiously formed, burrowed behind the peritoneum, and by the greatest good luck, burst into the rectum. I have never ceased to be thankful that I deferred aspiration until the next day. He recovered rapidly and is still alive and well.

For reasons which will appear during the recital, and which I shall specify at its close, I report the following case which, although not a pelvic abscess, was at first mistaken for one.

Profuse purulent vaginal Discharge, proceeding from vaginal cul-de-sac. Supposed pelvic Abscess; Curette, Irrigation, stimulant Injections. Granulations removed pronounced colloid Cancer by two eminent microscopists. Large semi-solid abdominal Tumor. Subsequently Laparotomy, colloid ovarian Cyst, rupture into Vagina. Death.

Mrs. X., æt. 60, two children many years before, came under my care late in the year 1881 for a profuse irritating yellow discharge from the vagina which she had had for a year or more. She was very anxious to know if it was cancer, as she had been failing somewhat for the past year. I found a large bilateral laceration of the cervix, the uterus immovably fixed, through the anterior vaginal wall a tense obscurely fluctuating mass which evidently was part of a tumor which reached two-thirds to the umbilicus. An examination with Sims' speculum showed pus pouring from an opening in the posterior vaginal cul-de-sac, into which a sound could be passed to the depth of three inches.

My diagnosis was pelvic abscess, and probably multilocular tumor of right ovary.

The indication was to try to cure the abscess, and to leave the tumor alone until it began to grow or affect the general health, which it possibly would never do at her time of life. I accordingly curetted the abscess-cavity, removing numerous colloid granulations, painted it with tr. iodine, and irrigated it every other day for several months. The patient's health undeniably improved, and the discharge was much diminished.

Then the friends, who were of an exceedingly vacillating nature in their professional relations, became tired, and wished treatment discontinued for a time. Of course, that meant other advice, and it was sought.

In May, 1882, I was requested to resume charge of the case, but declined. Only on urgent solicitation and with the express stipulation that any counsel I might ask for would be granted, did I consent to take the case. I was informed that one gentleman had seen the case since I had left it, and he had pronounced it cancer on the evidence of an eminent microscopical teacher. This opinion had incautiously been allowed to reach the ears of the patient, and of course her spirits fell to the lowest point. I at once subjected the colloid granulations from the supposed abscess cavity to another microscopical expert and he quite independently said it was colloid cancer. Still, from my clinical standpoint, I did not feel sure that this was the case and called Dr. T. A. Emmet in

consultation. He agreed with me as to the diagnosis originally made by me, and also as to the treatment, and did not believe that it was cancer. This opinion he repeated on several occasions when he saw the patient with me. The patient and her family accompanied me into the country for part of the summer, in order that the treatment might not be interrupted; and later the lady was kindly cared for by my request at the Oriental Hotel, on Coney Island, by Dr. E. H. Peaslee, the irrigations being continued. There was certainly an improvement, both generally and locally, although the abdominal tumor remained unchanged. Indeed, Dr. Emmet advised distinctly not to touch it, wherein I quite agreed, so long as it did not seem to trouble the patient.

In the winter of 1882-83, another freak seized the family, and they again wished to discontinue treatment. I had already begun to lengthen the interval between the irrigation of the supposed abscess cavity to one week, as there was very little discharge. The means of the patient were more than ample; hence the reason for vacillation could be merely a desire for change.

I saw nothing of the patient again. In the fall of 1883, about two weeks before his sudden death, Dr. Marion Sims called on me for particulars as to the previous history of the case. He had been asked to see the patient, who had been under the care of a female homeopathic physician, and had been getting steadily worse. When he saw her, he told me, the abdomen was very large, her legs were edematous, and her general condition was very bad. I told him what I knew of the case, and that when I last saw her, she had been driving and walking out daily, and was in better health than for a year past, and that there was no indication for operative interference of any kind. To be sure, that was nearly a year ago.

Dr. Sims said that he considered the removal of the abdominal tumor imperative. That was the last time I saw him. He gave up his passage to Europe, operated, found a large colloid ovarian tumor which had burst into the vagina (hence the colloid, but *not* cancerous granulations!), and was obliged to stitch the sac into the wound. While the patient's recovery was still in doubt, Dr. Sims died. His son, Dr. Harry Sims, from whom I have the above particulars about the operation and termination of the case, told me that unfortunately erysipelas developed to which the patient succumbed about three weeks after the operation.

I have related this case for several reasons: 1. Because it was an exceedingly unusual one in the feature of the rupture of a colloid cyst into the vagina. 2. On account of the difficulty of diagnosis and the error made by two microscopists. 3. Because it was the last case Dr. Sims operated on; and 4. Because I wish the case placed on record.

It seems to belong fitly in a paper on Pelvic Abscess, for

that is what the supravaginal cavity was taken for, until the operation cleared up the diagnosis.

The conclusions to be reached from the experience detailed in this paper are the following :

1. Pelvic abscess in the female is not very common, in proportion to the great frequency of pelvic exudations, and probably does not occur in more than ten per cent of all cases, the majority of exudations terminating in spontaneous absorption.

2. Pelvic abscess may be either extra-peritoneal, the result of cellulitis (by far the most common variety), or intra-peritoneal, the consequence of pelvic peritonitis. If intra-peritoneal, the adhesive inflammation between pelvic viscera and intestines may so seal the abscess-cavity as to render it *practically extra-peritoneal*.

Abscess of the ovary and pyo-salpinx do not belong in the category of "pelvic abscess" proper, and do not fall under the same therapeutic rules, unless when, by agglutination to the abdominal wall or to Douglas' pouch, they become virtually extra-peritoneal.

3. Small deep-seated pelvic abscess, not exceeding a capacity of two ounces, and minute multiple abscesses in the cellular tissue, can often be permanently cured by evacuating the pus thoroughly with the aspirator. The surrounding exudation is then rapidly absorbed.

4. About one-half of the abscesses open spontaneously into the vagina, rectum, bladder, or through the abdominal wall and ischiatic fossa. These cases may gradually recover without treatment, or the sinuses may persist until closed by surgical interference.

5. Abscesses containing more than two ounces of pus should be opened by free incision along an exploring needle or grooved director, cleared of débris by finger or blunt curette, and drained and irrigated, if necessary, through a drainage tube.

6. This incision should be made at the spot where the pus points most distinctly, which is usually the vaginal vault.

7. In a certain number of cases the pus points through the abdominal wall, generally in the iliac fossa, and the incision should then be ample, and free drainage should be secured.

8. When the pus has burrowed deep into the pelvic cavity,

and a probe can be passed from the abdominal incision down to the vaginal roof, mere abdomino-cutaneous drainage will not suffice, and a counter-opening must be made in the vagina, and a drainage tube carried through from the abdominal wound into the vagina. This drainage tube may have to be worn for months. In making this incision, care should be taken not to wound the bladder.

9. The opening of a pelvic abscess which points through the abdominal wall does not differ from, and is no more dangerous than, the same operation elsewhere on the cutaneous surface of the body. It is not an "abdominal section" or a "laparotomy," in the sense that these terms are now used to indicate the surgical opening of the peritoneal cavity.

10. Chronic pelvic abscesses, which have burst spontaneously, and have discharged through the vagina, rectum, or elsewhere for months or years, are exceedingly difficult to cure. This is particularly the case when the opening is high up in the rectum. A counter-opening in the vagina, or enlarging the opening if there situated, the curette, stimulant irrigation, etc., may occasionally succeed, but usually fail.

11. A perityphlitic abscess may point through the abdominal wall, and simulate a pelvic abscess proper. Aspiration will settle the diagnosis; the treatment is the same.

12. The majority of cases of pelvic abscess recover; at least the mortality is small.

A CASE OF REFLEX VASO-MOTOR NEUROSIS DEPENDENT ON OVARIAN DISPLACEMENT.

BY

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New York.

F. L., æt. 16 years, began to menstruate at 13. At the time of her first menstrual period she noticed a purple discoloration of the entire right upper extremity, interwoven with white spots; at the same time a swelling manifested itself on the lower part of the right leg and foot, the latter, however, without change in color.

The entire upper extremity always felt cold during menstruation. These changes began one day prior to menstruation, and

would reach their height on the fifth day, gradually disappearing in from two and a half to three weeks, to begin again at the next epoch.

One year ago the condition below described took place for the first time. One day prior to the beginning of menstruation, the right upper extremity began to swell and became discolored, of a purplish blue color, interwoven with white spots, the swelling reaching its maximum on the fourth day, six weeks elapsing before its entire disappearance. The arm felt cold, and numbness and formication was complained of throughout the entire extremity; at the elbows the formication and "tingling" were felt quite severely. In the shoulder a tearing pain was felt, lasting about half an hour, and recurring twice daily. The entire right lower extremity had a very tired feeling one day previous to and during menstruation, which occurs at regular intervals of four weeks, lasting usually three days. Patient came to my clinic on account of an excruciating pain in the right inguinal region, from which she has suffered since the time of her first menstrual flow. The pain begins one and a half to two days prior to menstruation, and continues during the same. For the past year, however, the pain has been increasing in severity. Incidentally my attention was called to the swollen and discolored right hand, when the above history was obtained, and I had the opportunity to show the interesting case to several of my colleagues.

Status præsens.—The swelling is of stony hardness, not tender on pressure at any point, pitting but slightly, of deep purple color, intermixed with pearly white patches about the size of a lentil.

	Measurements.	
	Right.	Left.
Wrist,	6 $\frac{1}{4}$ inches	5 $\frac{1}{2}$ inches
Middle of forearm,	10 $\frac{1}{2}$ "	7 $\frac{3}{4}$ "
Elbow,	10 "	8 $\frac{1}{2}$ "
Middle of arm (upper),	11 $\frac{1}{4}$ "	9 "
Near shoulder joint,	12 $\frac{1}{2}$ "	10 $\frac{1}{4}$ "

The superficial veins and capillaries of the entire right upper extremity, and the superficial veins of the anterior upper surface of the thorax, are intensely engorged, the posterior ulnar veins feeling like a hard cord.

Vaginal examination shows the uterus anteverted, freely movable, not painful.

The right ovary is prolapsed in the cul-de-sac of Douglas, and its corresponding tube is readily traced; the ovary is enlarged to about twice its normal size, very painful to touch; moderate pressure on it produces nausea, with desire to vomit. The present is the third attack (of swelling) within one year.

The result obtained from the treatment employed goes toward proving that the condition described is a reflex vaso-motor neurosis, dependent on ovarian lesion or displacement.

The patient, as noted above, had three attacks of swelling with-

in one year, and always, from the time of her first menstruation severe pains in the right inguinal region, with slight pain in the lumbar region, also always the very marked discoloration of the upper extremity, with swelling of the lower part of the corresponding leg and foot.

For three weeks she received regular treatment, consisting of galvanism as strong as could be borne without causing severe pain, and applications of iodine and glycerin tampons to the affected ovary. At her last menstrual period she had no pain whatever, for the first time since this physiological process began; the swelling (which had not fully subsided since her last menstrual flow) did not increase, neither did the discoloration become as marked as previously, and the swelling of the lower extremity remained absent.

243 West 42d st., Nov. 20th, 1885.

HYSTERECTOMY VERSUS OÖPHORECTOMY IN THE TREATMENT OF MYO-FIBROMATA OF THE UTERUS.

BY

HORATIO R. BIGELOW, M.D.

I RECENTLY had occasion to take issue with Mr. Lawson Tait in regard to his very absolute statements concerning the merits of oöphorectomy in the treatment of myo-fibromata of the uterus. The conclusions that I formulated were arrived at after much painstaking investigation at the bedside and in the dead-house, and after a conscientious balancing of physiological premises and pathological changes, I held as follows :

1. A rare percentage of tumors are dangerous by reason of hemorrhage.
2. The bleeding may be from sources posterior to the tumor.
3. Enucleation of ovaries and tubes will not always necessarily arrest the bleeding.
4. It cannot be predicted beforehand that the operation will arrest the bleeding.
5. The operation itself is serious and difficult.
6. The sequelæ may be fatal, if Tait's logic be correct, for a mass deprived of its nutrition is left within the abdomen to undergo degenerative changes, the products being absorbed or carried away as best they can.

Dr. Marcy and his assistant, Dr. Nelson, not long ago constricted with great care the superior vessels of the uterus, so as to include all sources of supply from the ovaries and tubes, and successfully injected a uterine myoma from *below* in a patient who had died from some intercurrent disorder. I have twice been able to repeat this experiment in Berlin, and have satisfied myself by special anatomical study in the dead-house here that in any event Tait's operation (or the operation of Hegar) will not control, except in a limited way, the blood-supply necessary to the perpetuity of these growths. This fact is made the more impressive from a study of the actual normal condition of the circulation within the female pelvis, for it will be found almost impossible to arrest the entire circulation in the different seats most frequented by uterine tumors. Those situated at or near the fundus will be those most easily reached by Tait's operation, but even here at the fundus an oöphorectomy will not necessarily strangulate the total circulation. The uterus looks to a very widely distributed capillary system for its nourishment, not alone depending upon the main streams that are included in the ligatures used in oöphorectomy. Why, then, should it be supposed that an operation which has for its object the arrest of the growth of a tumor, by strangulating its circulatory supply, should not exert a similar influence upon the whole body of the uterus? If the whole supply be interfered with, why should not every part of the organ under this hypothetical influence partake in the process of atrophy or desquamation? It is asserted that an oöphorectomy is the anticipation of the menopause, and that exactly the same conditions are artificially established which, at a later stage, become a physiological analogue. Uterine atrophy and old age are, of course, concomitant factors; but this atrophy, depending upon an arrest of ovulation and menstruation, does not imply an arrest of the circulation in the uterus itself, and cases are on record of severe hemorrhage from uterine myoma *after* the menopause had been fully declared. Granted that these tumors cease to grow with the menopause, it does not follow, of necessity, that this is a case of *propter hoc*; we only know that *post hoc* there is a quiescent period. At this time, the whole nutrition of the body is undergoing a change. There is a mighty heave and throb in the system

generally. The nervous centres manifest unusual eccentricities and vagaries. Cardiac symptoms are often pronounced. The kidneys may work awry, and the appetite may become freaky. The tumor feels the effect of the upheaval, and cannot escape the general malaise. The menopause becomes the result of a long train of chemical and vital agencies which have been at work for years preparing for the new order of things. It is not at all a settled premise that menstruation and ovulation are the necessary sequences one of the other. Neither can we, in the light of recent inquiry, accept the doctrine that the tubes alone are concerned in this function, or that the theory of Beigel is any more logical. Löwenthal believes the function to be purely a pathological one, depending upon the presence of the *non-inseminated ovum*. There are factors working in the uterine membrane itself which are intimately associated with menstruation, and which Wyder has fully described. Now the menstrual blood must come from the ovarian and uterine arteries if we hold to the classic theory of this monthly hemorrhage. These vessels enter the uterus at the *side*, and do not penetrate the tissues deeply. In the third point of his paper read before the London Obstetrical Society, April 1st, 1885 (see this JOURNAL for September), Dr. John Williams said: "The vascular arrangements are such that the circulation in the uterus can hardly be disturbed by mechanical causes. The entrance and exit take place at numerous points at the sides of the uterus, and in the uterus the direction of the current is transverse to its length and perpendicular to its surfaces, so that a ligature might be placed around the uterus at any point without affecting the circulation above and below. The only ligature which could materially interfere with the flow of blood into or out of the uterus is one surrounding each broad ligament, including their upper borders, *together with a portion of the uterus*." (Italics my own.) It is evident that there is a wonderful and elaborate circulatory system of the uterus which is not arrested by Tait's operation, though the menopause may be artificially so engendered, since this hemorrhage proceeds from vessels above the point of entry into the uterus. The shedding of the decidua menstrualis, if it be a consequent and necessary sequence to menstruation, would cease with the cause originating it, and hence there would be

an arrest of hemorrhage (I mean of the menstrual flow) after an oöphorectomy, not only from the ovaries and tubes, but from the uterus itself. The tumors which endanger life by bleeding are often friable, and situated in such a position as to be immediately dependent upon the vessels that supply the ovary and tube for their nourishment. In such a case, an oöphorectomy would partially arrest the blood supply, but could in no way affect the collateral circulation which escapes the constriction of the ligature. This is the only tenable explanation of the existence within the cavity of a necrosing mass without septic symptoms. If the entire nourishment of the tumor was obliterated, the mass would not only atrophy, but would possibly necrose, and infect the system with its septic debris. That it does not do so is a fact patent that it continues to live. If the whole circulation could be arrested by this operation, the uterus itself would *die*, because it would have nothing to keep it alive, and not only the tumor, but the whole sexual apparatus would participate in the change. But apart from these considerations, there are others of almost equal importance. No tumor should ever be surgically treated unless it be so serious as to endanger life, because the operation carries with it a doubt of the result. The operation of oöphorectomy is very often an extremely difficult one, more difficult than hysterectomy, and in other hands than those of Mr. Tait has not given brilliant results. A casual glance at the statistics of our own country will bear me out in this assertion. The operation itself is not a *radical* one, but only palliative; it merely relieves the dangerous hemorrhage, and carries with it quite as grave a doubt as to the result as would the radical operation. Surely such a surgical procedure would seem to be indicated as shall the most surely secure a total obliteration of the growth, with a consequent cessation of all untoward symptoms, together with the most hopeful outlook as to the result. Oöphorectomy is a dangerous operation, and is merely tentative. Hysterectomy is a dangerous operation, but a radical one. Do the general mortality statistics favor one above the other? If the percentage be about equal, there can be no question of choice.

BERLIN, November, 1885.

A CASE OF VICARIOUS MENSTRUATION SIMULATING
PULMONARY PHTHISIS: CURE.

BY

RICHARD THOMAS, M.D.,
New York.

MRS. S., æt. 40 years, American, sent for me in April last for professional advice. The impression prevailed generally among the lady's friends that she was in the final stage of pulmonary phthisis. She was lying upon her back in bed when I first saw her; her face was pale; her eyes moist and brilliant, while upon her cheeks were bright dashes of color, which picture, taken with her extreme debility and emaciation, might well be accepted, ordinarily, as that of grave pulmonary disease. The pulse was 95; the respiration 20; skin moist. The general manner of the patient betrayed a slight hysterical condition. She would look intently at me for a moment, then smile. Besides this ordinarily unladylike action, she made peculiar use of her mouth and lips, in short, gave me such an impression of hysteria that my thoughts bent themselves in the direction of the womb. Having thus observed her, I now examined the chest. *There was absolutely no sign of pulmonary disease* beyond a slight mucous sound in the bronchial region. From the moment I entered her room she coughed almost every minute, and with the cough she expectorated a slight quantity of blood. As the visit seemed to excite the lady, it was arranged that any further move in the case should be deferred until the following day. In the interval, the patient's family was given my views of the case, but it was very difficult to make them believe that Mrs. S. would not die from consumption; however, I was to be allowed to proceed in my own way, and next day made an examination per vaginam. The cervix was in good position; the fundus rather low down, as felt through the rectum. The whole organ was enlarged and abnormally heavy. *The mouth of the womb was perfectly closed;* the cervix giving every indication of being solid, and that the canal through it was obliterated. The usual site of the external os was marked by a small bird-shot like depression. The patient was suffering from marked vicarious menstruation. The supposition that she had consumption, she being supported in such a belief by previous physicians, who had led her to look upon her long-continued expectoration of blood as a sure sign of such disease, had done its work; fear, and uterine irritation, in due course brought about a condition of hysteria, loss of sleep and of appetite, gradually left her weak, and caused a loss of flesh. With this light thrown upon the case, it naturally became interesting to learn more particularly my patient's history; with frequent inter-

ruptions she gave it to me as follows : At the age of fifteen, she menstruated ; this function continued normally during some twenty years. She had been twice married, but was never pregnant. It was during her second marriage that the menses began to grow less and less, until about four years previous to April, 1885, it ceased entirely. At about this time a troublesome cough began to afflict her, but it was only after the absence of two menstrual periods that the cough began to be accompanied by expectoration of blood. She had not noticed any increase in the quantity of blood at such period, neither had she looked upon the pulmonary hemorrhage—for at times it was a hemorrhage—as in any manner connected with any function of the uterus, although she thought the entire absence of her monthly sickness very strange, and had employed a physician with a view of having such a condition remedied. She had never been examined per vaginam until my treatment of her case suggested it. Besides being of a nervous, excitable temperament, she was given to despondency, so that I think it quite within the range of possibility that, had she continued to labor under the impression that her trouble arose from pulmonary disease, she would have lived but a very short time, and the real cause of her illness would have been overlooked. Mrs. S. had passed many wretched, sleepless nights, “fighting against sleep, from a fear of bleeding to death in the night.” While she did not connect these profuse bleedings with the setting in of her menstrual functions, I have no doubt that the pulmonary hemorrhage was greatest at such times, and, as the usual period occupied in its performance transpired, the hemorrhage from the lungs grew less and less, becoming a mere slight expectoration of blood, to be increased again at the next monthly cycle. I questioned her closely, but failed entirely to elicit anything which to my mind would account for the obliteration of the cervical canal. She had not received any injury, nor could she recall any inflammation of the part in question, while she assured me positively that there had never been any attempt to tamper, instrumentally, with the womb; in fact, that as she had never been pregnant, there had been no occasion for such a proceeding. From the moment she knew her lungs were free from grave disease, her manner underwent a marked change. She became very talkative, cheerful, and readily gave me permission to perform the necessary operation for her relief. This consisted of a very simple procedure. Using a speculum, the parts in the near vicinity of the os were covered with olive oil ; this to protect them from the caustic ; a solid, pointed stick of the nitrate of silver being used. Fixing the partially retroverted womb by a finger in the rectum, the caustic was pressed firmly against the os—taking the slight depression mentioned, as my guide—and by a rotary motion the tissues were destroyed to the depth of a quarter of an inch ; this boring operation being repeated every other day, till a canal about an inch in depth had been drilled into the neck of the womb. At this point, the remaining tissue was divided by a bistoury, passed

directly through into the cavity of the uterus, when a small quantity of dark fluid slowly oozed from the incision, which being extended somewhat, gave passage to considerable blood, dark in color, but with no unpleasant odor. As the entire canal was now kept open with a small roll of linen, smeared with cosmoline, it gave passage, in a day or two, to a small-sized sponge tent; which, being followed by others of increased size, soon made a useful canal, through which, with the help of ergot internally, there passed occasional clots, while a dark, thick fluid continued to escape for many days. The patient was now put upon a course of iron, bark, etc.; her general health gradually improved; the troublesome cough declined, *and ceased almost entirely with the appearance of her next menstrual period*, this occurring naturally just six weeks from the establishment of the new cervical canal. Mrs. S., in two months from my first visit, appeared among her friends, a perfectly restored woman.

IN MEMORIAM.

ALBERT HOLMES SMITH.

THE subject of our memoir, DR. ALBERT HOLMES SMITH, was born in Philadelphia, July 19th, 1835. He was the seventh and youngest child of Dr. Moses B. and Rachel D. Smith.

Both parents were worthy members of the Society of Friends, descendants of that good old Quaker stock whose fathers left the land of their birth, and sought the shores of the New World in hopes of finding a place where they might worship God untrammelled by human authority, whether of Church or State.

One ancestor in England had faithfully upheld his testimony to the truth, and sealed it with his life's blood, and we shall see that his descendant was not wanting in the same high devotion to principle, and to the convictions of his heart.

His early life was devoid of particular incident, so far as appears, and his school days were passed in diligent application to his studies. At one time, he attended an excellent private classical school near his father's home, and again we find him

enrolled as a pupil at the Friends' Boarding-School at West-town, Chester County, Pennsylvania.

It being his father's wish that he should adopt his own profession, he was entered as a student in the University of Pennsylvania (department of arts) for a preliminary course of studies. Here he took high rank as a scholar, especially in the classics, and was graduated with honors in 1853—as Bachelor of Arts—delivering a Latin oration at the commencement. Soon after, he entered the medical class in the same institution, and became an office student of the late Professor George B. Wood, then in the height of his fame as a teacher.

Here he continued for three years, and graduated as Doctor of Medicine in 1856. He had scarcely done so, when he was offered the post of assistant physician at the Frankford Asylum for the Insane. This was accepted, and he filled the place for eighteen months, to the complete satisfaction of the managers.

Resigning this situation, he was elected resident physician to the Pennsylvania Hospital, where he served his term, which expired in 1859.

Having now completed, as he considered, his medical education, he took an office, and commenced private practice. He had, as a student, attended the lectures of Dr. Joseph Warrington at the “Nurse's Home and Lying-in Charity,” and was much impressed with the importance of thorough knowledge of the science and art of obstetrics as expounded by that able teacher. He resolved to devote himself mainly to this branch of medicine in the future, and to this end he resumed his attendance at the Nurse's Home, where he soon received the appointment of assistant physician, in conjunction with two others.

In 1862, a reorganization of the medical staff was effected, and Dr. Smith—with his friend, Dr. J. G. Allen—were appointed attending physicians and lecturers, each serving half the year.

This important post was ably filled by Dr. Smith for more than twenty years, and the value of the sound instruction which he imparted to hundreds of young men, who are now engaged in obstetric practice all over the Union, can scarcely be over-estimated. In the same year, he was appointed one of the consulting obstetricians to the Philadelphia Hospital.

He became an active member of several medical bodies, and

during his professional career took a lively interest in their proceedings.

Among these may be mentioned the American Medical Association, the Philadelphia Pathological Society, the College of Physicians, the State and County Medical Societies, the Obstetrical Society of Philadelphia, and the American Gynecological Society. He was prominent among the founders of the two last-named, and twice served as president of the Obstetric Society. He was elected president of the Gynecological Association, at its eighth annual meeting, and presided over its deliberations in the city of Chicago last year, delivering an able and instructive address, which may be said to have been his last legacy to the profession, as it was prepared and delivered whilst suffering greatly from the malady which ended his life.

Dr. Smith could scarcely be considered a voluminous writer, yet during the period between 1869 and 1883 we find a number of valuable papers and essays from his pen, most of which were practical descriptions of methods of treatment in special conditions, or expositions of his views regarding the proper use of instruments. His published essays include:

A Simple Form of Inhaler for Ether (*Amer. Journ. Med. Sci.*, April, 1869).

A Compact and Portable Obstetric Case (*Amer. Journ. Med. Sci.*, July, 1869).

An Improved Speculum (*Med. Press and Circular*, December, 1869).

The Use of Pessaries in the Early Months of Pregnancy (*Am. Supp. to Obstet. Journ.*, April, 1875).

Quinia as a Stimulant to the Pregnant Uterus (*Am. Supp. to Obstet. Journ.*, June, 1875).

A Vulsellum for using with the Écraseur (*Medical Times*, Aug. 7th, 1875).

Retarded Dilatation of the Os Uteri in Labor (*Med. and Surg. Reporter*, Aug. 11th and 18th, 1877).

Use of Catgut in Gynecological Surgery (*Med. and Surg. Reporter*, 1878).

Application of the Rotating Burr for denuding Tissues in the Restorative Surgery of the Female Pelvis ("Trans. of Am. Med. Asso.," 1878, vol. 29, p. 475).

Pendulum Leverage of the Obstetric Forceps ("Gynecological Transactions," vol. 3, 1879).

The uses of the Hot-water Douche in Parturition (*Phila. Med. Times*, Aug. 16th, 1879).

On the use of Intrauterine Stem Pessaries ("Proceedings Phila. Co. Med. Soc.," vol. 2, 1879-80).

Clinical Notes of a case of Twin Pregnancy (*Ibid.*, vol. 3, 1880-81).

Relation of Cleanliness to the Prevention of Puerperal Septicemia (*Med. News and Abs.*, Oct., 1881).

Sponge Tents (*Med. Times*, Feb. 25th, 1882).

Axis Traction with the Obstetric Forceps ("Gynecological Trans.," vol. 6, 1882).

Relation of the Phila. Co. Med. Society to the Profession and Community (*Med. Times*, Dec. 2d, 1882).

Hot Water in Secondary Hemorrhage after Pelvic Operations ("Gyn. Trans.," Sept., 1883).

In the year 1876, he was a delegate from the Centennial Medical Commission, of Philadelphia, to the International Medical Congress, and took part in its deliberations with much interest.

Having been solicited to act as consulting surgeon accoucheur to the Woman's Hospital, he accepted the position, and was thereafter fully identified with the cause of Female Medical Education. This action on his part aroused considerable dissension in some of the societies to which he belonged.

There was a strong sentiment in the college of physicians against the recognition of women as medical practitioners in any possible way, and the acceptance by Dr. Smith of a position which necessarily involved his consulting with female physicians was the signal for an active and bitter attack upon him. A resolution was offered and vigorously pressed, making it a cause for expulsion against any Fellow of the College who should thereafter meet a woman doctor in consultation.

The intolerance and bigoted conservatism shown in the discussion by the advocates of this resolution seemed strangely inconsistent with their claim to be members of a liberal and enlightened profession, and, after a protracted and heated debate, in which he defended most ably the cause he had espoused, Dr. Smith had the satisfaction of seeing the failure of the proscriptive resolution by a negative vote. This experience, and the effects of it upon his own mind, strengthened him greatly in his conviction that the time had come for him to advocate, upon all proper occasions, the right of woman to a full recognition of equality in the medical world, and thereafter he gave freely of his time and talents in this cause. There were, among his medical associates and friends, many who were not prepared to accept his opinions in full, many others

who differed with him altogether, yet retained their kindly feelings for him personally, and yet others who coldly turned their backs upon him and the cause he advocated, and sought by every means in their power to defeat his ardent wish, that the State and County Medical Societies should admit women to membership and recognition. For this, he labored with untiring zeal and self-abnegation, and when finally compelled by failing health to pause in his efforts, it was with the full conviction of the righteousness and justice of the cause and of its ultimate triumph.

When that time comes, be it sooner or later, let the name of Dr. Albert H. Smith be remembered as a pioneer who fought well and bravely for the right, and, whether in victory or in defeat, never lowered the standard of his faith, or compromised with what he believed to be wrong.

From the time when Dr. Smith commenced private practice until 1880, he led a most active life in the pursuance of his daily round of professional work. His exceptional skill in obstetric manipulations and in the use of the forceps, combined with his rare judgment, and a thorough knowledge of the mechanism of labor, caused him to be often called upon by his medical brethren to assist them in cases of difficulty. A very large circle of patients of every condition in life looked upon and loved him as the kind and sympathetic friend in the sick-chamber, no less than as the skilful physician in whom they reposed all confidence.

But especially was this the case with his patients of the opposite sex, who had experienced the benefits of his advice or assistance, and had appreciated the gentleness, the unvarying kindness and patience of his disposition, the delicacy and regard for their feelings always present with him, and the quiet firmness of his character which was so reassuring to the sufferer.

In the early part of the year 1880, he had an attack of typhoid fever—probably the result of his arduous labors, and when convalescent, yielding to the opinion of his medical advisers and the wishes of his family, he took a vacation in Europe.

This was a season of much pleasure and advantage to him, for he came back quite restored in health, and with a fund of

useful information derived from intercourse with many distinguished medical men in Great Britain and upon the continent, and the opportunities he had enjoyed of visiting numerous hospitals and schools of medical learning. He was, upon his return home, soon immersed as deeply as ever in the constant round of professional work, and for a while, it seemed as though his former strength and endurance were unabated. But this belief on his part was incorrect, for in 1881 his health began to fail again, and symptoms of prostatic disease warned him that he must lighten some of his absorbing duties, or once more seek rest and change.

It was finally decided, after several consultations with professional friends, that he should make a visit to London and place himself under the care of Sir Henry Thompson.

This plan was carried out in November, 1883—the treatment instituted appeared to modify somewhat the progress and severity of the disease—and soon after his return home (about January 1st, 1884), he again commenced practice and continued at work till the close of that year. Since then he has been closely confined to bed, suffering greatly from the inflamed and enlarged prostate gland which seemed to be the principal seat of disease. After enduring untold agonies with Christian fortitude and resignation for so many months, death finally came to his relief, on the 14th of December, 1885.

Dr. Smith was tall and robust in person, with dark complexion, black hair, and hazel eyes, and until recently, had the appearance of perfect health. He was married in 1860 to Emily, daughter of Charles Kaighn, Esq., of South Camden, N. J., by whom he had seven children, five of whom, with their mother, now mourn their unspeakable loss.

Such is an imperfect record of a noble life, one worthy to be held up as an example before the young men of the profession which Dr. Smith adorned.

To talents of the first order, he united the most unflagging industry, great love for his calling, and an earnest desire for its true advancement; a frank and generous bearing towards his medical associates, and a scrupulous observance of the Code of Ethics in all his intercourse with them. Brave and firm in advocating the principles he held to be correct, he was always courteous in his bearing to those opposing him,

and though often sorely pressed in such discussions by the taunts of his adversaries, and the weight of majorities against him, he never forgot that he was a gentleman, and proved himself such by his moderation and self-command.

He won the confidence and affection of his patients, by deserving both, through unswerving fidelity to their interests. Finally, in his more personal relations—he was a faithful and affectionate husband, a devoted and indulgent father, a loving brother, and a loyal and unchanging friend. As the latter, the writer knew and cherished him for many a year.

WILLIAM SAVERY, M.D.

BRYN MAUR, PA.

CORRESPONDENCE.

"CONTROLLING SEX IN GENERATION."

THE EDITOR AMERICAN JOURNAL OF OBSTETRICS.

SIR:—It is with considerable hesitation that I request space for a brief reply to the letter from Mr. Samuel Hough Terry, which appears in the number for the current month. Were it not for the fact that he takes exception to my criticism on the ground that I draw "false inferences," and suggest "conclusions that are not legitimate," I should certainly rest content with the opinions I have already expressed in regard to this law and hypothesis, for Mr. Terry's argument in his letter is, if possible, even weaker than that in his book. But my honesty as a critic being impugned, there is but one course open to me, and this to reiterate the validity of my criticism, and to fortify it with reasons which the necessarily restricted limits of a review forced me, in September, to suggest rather than to amplify. *

In regard to the law which Mr. Terry formulates, I will say but little further. In regard to his hypothetical explanation of this law, which, in my review, I mildly termed visionary, I would now say that it is not only visionary, but absurd and laughable in the face of simple physiological facts—first principles, indeed—the repetition of which here is necessary, even though in so doing I insult the intelligence of the veriest tyro likely to read your journal.

In the first place, Mr. Terry charges me with erroneously re-

stating his hypothesis. I must leave the truth of this charge to the judgment of those who read his book in connection with my review. For me to disprove it in this place would require more space than the subject is at all worth. I much prefer to examine Mr. Terry's own *résumé* of his hypothesis as it appears in his letter, particularly in connection with the points wherein he states I misrepresented him. I grant Mr. Terry now, even as I did in September, the truth of his statement in regard to the action of electrical phenomena, for in this connection I could not speak as an expert. I pass at once to his physiological deductions, which I am presumably, from my vocation, entitled and qualified to criticise, especially since these deductions emanate from a layman. Mr. Terry tells us in his letter that the "circumstances going to show the probability of these electric conditions existing in the parents *at times of procreation*" (italics mine) are, amongst others, the acidity of the menstrual discharge and the alkalinity of the semen, these two factors indicating "that the *organs* (italics mine) from which they proceed are likely to be relatively negative and positive." If this sentence implies anything, it is that the time of procreation is coincident with the menstrual period, and, therefore, the deduction is direct that, to satisfy Mr. Terry's law at its best, intercourse should be had during menstruation. Further, if Mr. Terry does not think the menstrual discharge contains the ovule, why should he oppose the acidity of this discharge to the alkalinity of the semen? The latter contains one fructifying element, if Mr. Terry does not think that the former contains the other, my question—"What has the acidity of the menstrual discharge to do with the reaction of (not "on") the ovule?"—is an eminently proper one; whilst, if he does, to turn one of his weapons, slightly bent, on himself, "there are some things that men of maturer years" presume they know, but, when this assumed knowledge is questioned, there is revealed, not "lack of judgment in the querist," but "ignorance" in the man! Further still, the "organs" (unless this be a *lapsus* for organisms [?]) from which the semen and the menstrual discharge proceed are, to teach Mr. Terry a little anatomy, respectively the vesiculæ seminales and the uterus. These organs, according to Mr. Terry, "are likely to be relatively negative and positive," because, inferentially from the passage I have cited, the secretions which come from them are respectively alkaline and acid. Well, what if this be so? How can this fact possibly affect the determination of sex, unless the menstrual discharge contains the ovule, and the latter be immediately fecundated whilst the female is negatively electrified, unless, indeed,

Mr. Terry would have woman constantly so charged, in which case why not at once assume this as a fact instead of trying to base it on the acidity of the menstrual flow? If, perchance, Mr. Terry meant to write organisms, I might grant him that the vesiculæ seminales and their alkaline contents could make man positive (in its electric sense), because the semen contains the male fecundating element, but I fail to see why the menstrual discharge, on account of its acidity, should make woman negative, since, as far as it is in man's power to judge, this discharge does not contain the ovule, or female germ, prepared for impregnation; if it did, the chances are infinitesimal against its not passing out with the discharge. In short, it would be just as rational to say that woman's negative electric condition is dependent on the acidity of the gastric juice, and man's positive electric condition on the alkalinity of the pancreatic secretion. The absurdity of Mr. Terry's hypothesis is especially glaring when we remember that the large majority of ova are impregnated during the intermenstrual period, and also the ease with which impregnation occurs during the physiological amenorrhea of lactation.

Again, Mr. Terry says "but surely the critic does not hold that there is no relation, such as may be inferred from my argument, between the secretion"—I presume he means the menstrual discharge, although this is not a secretion—"and the development of the ovum." The critic must hold to this view, however, because, to teach Mr. Terry a little physiology, the menstrual discharge has absolutely nothing whatever to do with the *development* of the ovule, this discharge being either an accompaniment of the congestion incidental to the ripening of a Graafian follicle (the prevalent view), or else the result of the shedding of the decidua which has surrounded a dead unimpregnated ovule (a recent view, Löwenthal's), or, thirdly even, not at all dependent on the ovary, but on the movements of the tubes (Lawson Tait).

It is apparent, I think, to medical men, and they alone are competent to judge in this matter, that Mr. Terry's mistake, as I stated in my review, was in not resting content with his empirical law. This, as a layman, he was competent to discuss. Whilst a very good lay writer, he makes a very poor medical.

But one word in regard to Mr. Terry's objection to my use of the term "sexual contact." In a personal letter to me, he states that I misrepresented him by substituting "contact" for "discharge," and thereby not making it apparent that his idea is that "the electric influence which governs the sex has its action at or immediately after the voluptuous orgasm when impregnation occurs, and not at the first contact." Obviously, this is mere

quibbling, for, in order that there may be impregnation, contact must include both orgasm and seminal discharge, and it was in this collective sense that I used the word. It is almost superfluous to point out that, in the above quotation, Mr. Terry expresses, as clearly as words can, his belief that impregnation follows immediately on copulation.

In conclusion, I desire to assure him publicly, even as I have already done privately, of my regret for the typographical errors which crept into my review. For these I was not at all responsible. His wish for immortality is but a natural one, but if he desires this on the strength of the enunciation of the law, I would remind him that practical breeders knew of this, and empirically applied it, long before he published it to the world, and that, therefore, the credit due him must suffer considerable subdivision; and again, if perhaps he should desire it on the strength of the hypothetical explanation of this law, I fear his immortality will not partake of the kind sought by Horace—"more lasting than brass."

I am, sir, respectfully yours,

EGBERT H. GRANDIN.

59 WEST 35TH STREET, January 17th, 1886.

TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF NEW YORK.

REPORTED BY THE SECRETARY, DR. H. C. COE.

Stated Meeting, December 15th, 1885.

The President, DR. PAUL F. MUNDÉ, in the Chair.

A CASE OF PERSISTENT MENSTRUATION IN A LADY SEVENTY YEARS OF AGE.

DR. T. ADDIS EMMET reported the case of a lady of 70, whom he had known for several years. She had menstruated regularly every month since the age of sixteen, except when she was pregnant, and during a certain interval after she had reached the age of forty-five or fifty. Her daughter, who was aged fifty, also had a regular monthly flow. The mother was, as far as he knew, in perfect health, and had been a widow for thirty years. He regarded the case as a very unusual one.

THE PRESIDENT asked if it was supposed that the lady still ovulated.

DR. EMMET replied in the negative, and added that he had never met with a case in which ovulation (as shown by pregnancy), occurred after fifty-five.

DR. MURRAY mentioned the case of a lady, aged 51, whom he attended in her tenth confinement. She had noticed that her abdomen was enlarging, but was incredulous when told that she was pregnant.

THE PRESIDENT asked if the patient had menstruated regularly up to the time of pregnancy.

DR. MURRAY replied that she had been so irregular that she had supposed the complete cessation to be the normal menopause. He was unable to say whether she had menstruated since her confinement or not.

THE PRESIDENT asked Dr. Emmet if he was sure that the monthly flow in his case was not due to the presence of some pathological condition.

DR. EMMET replied that he could not make any positive statements, as he had never examined the lady; he only knew that her general health was perfect.

DR. JANVRIN recalled the case of a lady, aged 52, who was attended in her confinement at that age by Dr. McLane. Thirty-six years had elapsed since her last pregnancy.

DR. B. M. EMMET said that he, too, was acquainted with a lady (not the same mentioned by Dr. T. A. Emmet), 70 years of age, whose monthly periods recurred regularly, while her health appeared to be excellent. In her case, also, there had been a certain interval during which the flow ceased entirely.

DR. CLEVELAND remembered several women who had been confined at the age of 50.

DR. PERRY recalled a case in which menstruation was still present at the age of 52.

SPECIMEN OF RENAL CALCULUS REMOVED FROM AN INFANT.

DR. PARTRIDGE exhibited the specimen, which was as large as a small hazel-nut, and read the following notes: Lizzie Wainwright, aged 20 months. Father English, mother American; admitted to the hospital in July, very much emaciated and suffering from a mild inflammatory diarrhea. Under treatment her general health was greatly improved, and remained good until Nov. 1st, when she was attacked with the whooping-cough. Her diarrhea returned, and in two weeks she developed a croupous pneumonia of the right upper and middle lobes, which did not resolve, and from which she died on December 8th, 1885. She never presented a symptom of urinary calculus. No examination of the urine was ever made.

Autopsy.—Forty-eight hours after death. Emaciation well marked. Heart enlarged, and considerable hypertrophy.

Lungs.—Right attached by recent adhesions to chest-wall, upper and middle lobes firmly adherent together. On section of these, cut surface showed a general croupous pneumonia, with here and there little cavities and spots of cheesy degeneration. Lower lobe showed congestion with some bronchitis. Left lung emphysematous, considerable bronchitis.

Spleen and Liver.—Normal.

Kidneys.—The right was normal in size and appearance, the capsule being non-adherent. In the pelvis of the left was found a stone, encapsuled, but not adherent.

Cortical substance swollen, and markings very distinct. Ureters the same size; left ureter slightly congested. Bladder normal. No signs of any other calculus.

The speaker remarked in conclusion that it was rare to meet with a stone of that size in so young a child, although it was not unusual to find masses of amorphous urates in the renal tubules, which were probably deposited during the cooling of the body. He believed that there was still much to be learned concerning functional renal troubles in children. There might be sudden and important changes in the character of the secretion, merely as the result of errors in diet, or from other slight causes.

DR. PERRY asked the speaker if anything was known concerning the health of the child's mother.

DR. PARTRIDGE replied in the negative.

A CASE OF HYSTERO-CATALEPSY OF OBSCURE ORIGIN.

DR. COE reported the case of a young married lady with whom he had long been acquainted, and whose health has always been perfect. She had never had any symptoms which could be referred to diseases of the pelvic organs. A few days after a menstrual period, she complained of rather vague pains in the lower part of the abdomen, which were soon followed by a series of peculiar hysterical manifestations that were most alarming to her relatives. The speaker remained with her for four hours, during which time she had about twenty attacks. While conversing in the most rational manner, she would suddenly lose her consciousness, and remain perfectly rigid during an interval varying from two to ten minutes. The face became almost cadaveric in appearance, the eyes fixed (the corneæ being insensible), and the breathing imperceptible. The pulse was not affected at all, but continued to be full and slow. The patient, on regaining her consciousness, gave a slight start, and resumed the conversation where she had dropped it, her mind remaining as clear and active as at any time. Treatment appeared to be of small avail, although if used as soon as there was the slightest evidence of the *globus*, inhalations of chloroform occasionally prevented, although they did not shorten, the attacks. Dr. Coe said that he had made a careful examination per vaginam, and had tried to discover the cause of the peculiar condition, but in vain. A curious feature in the case was the fact that the patient was ashamed of her weakness, and struggled against it all the time. Two months had elapsed since the attacks, and there had been no signs of a recurrence.

DR. EMMET asked if the patient had menstruated normally since the attack.

DR. COE replied in the affirmative.

DR. PERRY inquired if the urine had been examined.
DR. COE said that he had found it perfectly normal.

SUDDEN OBSCURE SHOCK DURING CHRONIC PELVIC PERITONITIS.

THE PRESIDENT remarked that he had recently observed attacks somewhat similar to the one described in three patients who had chronic peritonitis. On one occasion, a lady was sitting in his waiting-room, when her feet became cold, her pulse very feeble, and she looked as if she were going into a state of collapse. Her own physician said that he saw her during several similar attacks, when he feared that she would die. It required a large amount of brandy and morphine to revive her. The President thought that the phenomenon might be caused by the sudden stretching of pelvic adhesions. In another instance, a lady went to dine at a hotel near her apartment, apparently in perfect health, when she was seized with most alarming symptoms of shock accompanied by severe pain in the abdomen, which obliged her to remain in bed at the hotel for nearly two weeks. He had that day been called in consultation to a similar case. The fact to which he wished to call particular attention was this, that in every instance the symptoms were those of sudden acute pelvic pain, followed by shock.

DR. JANVRIN asked if there had been any periodicity in the attacks; could they be referred in any way to the menstrual function?

THE PRESIDENT replied in the negative. In all of the cases there was pain during menstruation, but the attacks did not appear at those times.

DR. JANVRIN did not believe that symptoms of shock were uncommon at the monthly periods. They were probably due to ovarian or tubal disease, possibly to the escape of a small amount of blood into the abdominal cavity. He cited a case that he had observed quite recently, in which a lady had several distinct attacks of acute pain, with evidences of shock, accompanying the monthly flow. The pain was so severe that she frequently became unconscious. In her case he attributed the phenomena to the presence of disease of the Fallopian tubes.

THE PRESIDENT granted that the symptoms which he had described might be caused by the escape of a small quantity of pus from the tubes, but in his cases there were no signs of acute trouble such as would have been evidenced by a rise of temperature.

DR. WYLIE recalled a case similar to those described by the President. The patient came to his office for treatment, but, on examining her, he found a small cystic tumor to the left of the uterus, which he recognized as a dilated tube. As the cyst was so tense, he sent the lady away without treating her, fearing that any interference on his part might induce peritonitis. Soon after she had a severe attack of abdominal pain, preceded by a chill, and coldness of the extremities. On one occasion the cyst collapsed, and simultaneously with its disappearance a quantity of watery fluid escaped from the uterus.

DR. T. A. EMMET believed that the rupture of a small blood-vessel at the time of menstruation occurred far more commonly than was generally supposed. Of course this could seldom be actually

demonstrated, yet there was every reason why this should be assumed.

DR. HANKS thought that the symptoms mentioned by the President agreed perfectly with Dr. Thomas' classical description of the formation of pelvic hematocele.

THE PRESIDENT raised the objection that the amount of collapse in his case was not sufficient to justify the inference that there had been any considerable internal hemorrhage.

DR. PARTRIDGE asked if he was correct in inferring from the President's remarks that a small drop of pus escaping into the peritoneal cavity might cause serious trouble.

THE PRESIDENT replied in the affirmative, and further suggested the explanation that in such cases ovulation and menstruation might not occur synchronously, the symptoms of shock being referred to the former process.

DR. POLK thought that severe pain alone might account for the symptoms of shock. There might at the same time be some inflammatory process, caused by an extravasation of pus or blood coming in contact with a fresh peritoneal surface. The effects caused by the pain were measured by the condition of the patient at the time.

THE PRESIDENT asked if the sudden stretching of the peritonitic adhesions might not cause symptoms of shock.

DR. POLK was more inclined to refer them to the escape of pus or blood.

DR. COE suggested that the pain which occurred during menstruation might be explained by the traction caused by the vermicular movements of an imprisoned tube.

DR. T. A. EMMET thought that a tube when surrounded by adhesions was apt to be paralyzed, the same as a coil of intestine under similar circumstances.

A CASE OF PREGNANCY COMPLICATED BY ANEURISM OF THE ABDOMINAL AORTA—NORMAL DELIVERY.

DR. GILLETTE furnished the following details concerning the case. The patient had previously borne two children. Three years before she went to Lima (Peru), and while there was under the care of local physicians, who discovered an aneurism of the abdominal aorta. She became pregnant, and returned to New York, where she placed herself under the speaker's care. Her menstruation had ceased three months before; she had severe pain in the abdomen, and there was evidence of extensive disturbance of the circulation. Dr. Gillette found that there was no doubt about the existence of the aneurism, and that it was sufficiently large to impart a decided impulse to the uterus. Never having encountered a similar case, he was at a loss as to the best treatment to be adopted. A consultation was proposed, but the patient objected so strongly that the idea was abandoned. As he declined to induce premature labor without a consultation, the lady applied to an abortionist, who tried to induce labor, but failed. Pregnancy progressed to the fifth month, when the distressing symptoms began to be relieved; the pain diminished, and the heart's action became more regular. Improvement continued, and the painful symptoms referable to the aneurism disappeared entirely. The labor was

perfectly normal. In order to eliminate every disturbing element, the patient was kept under chloroform during the first stage, and delivery was effected rapidly and easily with forceps. After delivery the aneurismal symptoms returned, and were now present, though much modified. The speaker said that he had reported the case, not only because of its unique character, but because there had been so much doubt as to the proper course which ought to be pursued. It really seemed as if the growth of the aneurism had been retarded by utero-gestation.

DR. LEE cited, in the same connection, a case which illustrated the beneficial effects of support applied to an aneurism by an adjacent tumor. Eighteen months before he had seen in consultation a lady who had at the same time an abdominal aneurism, a subperitoneal fibroid and a floating kidney. As the fibroid was rapidly increasing in size, he feared that it would compress the aneurism to such a degree as to cause its rupture. Arrangements were accordingly made to have the patient enter the hospital, where it was designed to attempt the cure of the aneurism by exposing it through an abdominal incision, and introducing a coil of fine wire into the sac with the view of inducing coagulation of the contained blood. But the aneurism became smaller as the uterine tumor enlarged, the pains in the lower limbs diminished, and the lady's general condition was much improved. Dr. Lee attributed the diminution in the size of the aneurism to the increased support afforded by the growing tumor, and probably also to the partial coagulation of the blood within the sac.

DR. GILLETTE agreed with Dr. Lee's explanation, and added that his patient's condition had improved so much during her pregnancy that he was inclined to believe that, if the state had been prolonged a few months more, the aneurism would have been entirely cured.

DR. MURRAY stated that he had seen Dr. Gillette's patient several times, and was sure that there was no syphilitic taint in her case. He had searched various hospital records in order to discover, if possible, whether any case had been reported in which an aneurism had occurred in a syphilitic patient who went to the full term of pregnancy. His search had been unsuccessful.

DR. HANKS asked if any treatment had been directed towards the aneurism. Had iodide of potassium been given?

DR. GILLETTE replied in the negative. There was not the slightest trace of syphilis.

DR. JANVRIN did not see that the original question, regarding the advisability of inducing premature labor, had been answered by any of the former speakers. He believed that it was more unsafe to bring on premature labor than to allow the patient to complete her pregnancy, since there was frequently quite as much straining during a labor occurring at the fourth or fifth month as there was at full term. He was, therefore, in favor of adopting the course which had been pursued in the present instance.

DR. J. H. DEW (present by invitation) cited a case which he had observed in 1869, when he was connected with the Maternity Hospital. A woman, at the end of the first stage of labor, suddenly collapsed and became moribund. Cesarean section was performed at once, and twins were delivered. On opening the abdomen there was a tremendous outgush of blood from the peritoneal cavity. The patient died, and at the autopsy there was

found an aneurism of the splenic artery that had been ruptured by the expulsive efforts.

DR. POLK thought that the case just narrated was the best answer to the question under discussion. He did not believe that there was much danger of an aneurism being ruptured by the pressure of the gravid uterus, since the latter really acted as a support: the real danger lay in the straining efforts which occurred during delivery. Where the sac was large and its walls thin there was great liability of rupture, but in a case such as that of Dr. Gillette where the aneurism was of slow growth, it was fair to assume that there had been no thinning of the walls, especially as there was an absence of any syphilitic history. No absolute rule could be laid down. The speaker could not agree with Dr. Janvrin that there was the same amount of straining at an early stage of pregnancy as at term. Given a syphilitic case, with a strong probability of degeneration of the walls of the sac, he would advise the induction of premature labor.

DR. GILLETTE agreed with the last speaker. It was not the pressure of the gravid uterus that he had feared, but the expulsive efforts of the second stage; hence he had endeavored to make the labor as easy as possible. In certain cases he believed that it was the attendant's duty to produce abortion.

DR. JANVRIN still adhered to the opinion previously expressed, that in the case of a *multipara* (not a *primipara*), the straining at three or five months was quite as severe as at full term.

A SUCCESSFUL CASE OF ALEXANDER'S OPERATION.

DR. POLK said that he desired to report this case (which was the tenth that he had had) because of its successful termination in spite of unfavorable circumstances. The patient was fifty-six years of age, and had a complete procidentia with extensive ulceration of the cervix. By very careful measurement the depth of the uterus was ascertained to be four inches. The operation was performed and the patient kept in bed for four weeks (the usual time), after which she was allowed to walk about, the uterus being supported by cotton tampons. The perineum was then repaired. The patient was now ready to go home, her uterus being in good position, and measuring only two and one-half inches. The speaker mentioned this case because at a former meeting the President had referred to the operation in terms of disfavor.

DR. HANKS asked Dr. Polk if many of these cases of prolapsus would not be improved if they were kept in bed for several weeks, and their uteri retained in position, without their having any operation at all.

DR. POLK replied that such treatment had not produced any effect in his case.

DR. T. A. EMMET said, in reply to a question from the President, that he had seen Dr. Alexander operate upon three cases of retroversion, which had been operated on by Dr. Alexander where the ligaments had been shortened eight months before. The uterus in this instance was indeed in a position of anteversion, yet it sank about as low in the pelvis as it must have done when it was retroverted. Dr. Emmet believed that the same result as to the reduction in size could be obtained by repairing the existing lacerations of the cervix.

THE PRESIDENT said that since reporting the four cases which formed the subject of his paper last spring, he had had two others, in the last of which he failed to find the ligaments, as the woman was very fat. The other case was entirely successful, as Dr. Coe could testify, since the patient had been under his care before and since the operation. She entered the hospital practically an invalid, with a retroverted uterus, and prolapsed ovaries, which caused her intense suffering at each menstrual period. Now the uterus and ovaries were in nearly the normal position, the woman was able to walk about briskly without a cane, and she had begun to earn her own living. The first period after the operation was entirely painless. The President added that two of his six operations had been successful, and one partially successful, while in three cases he had failed to find the ligaments. If he was able to find the ligaments in three cases, why not in the other three? Simply because they were unfavorable cases, and because the operation had that element of uncertainty about it. In spite of the criticisms of Dr. Alexander (which he regarded as rather unfair), he still believed that the operation was limited to those cases in which the round ligaments could certainly be found, that is, to patients with a moderate development of adipose tissue.

DR. POLK said that he had experienced no special difficulty in finding the ligaments. Only in his first case he failed to find the ligament on one side. As Alexander had pointed out, operators were very apt to pull out some fibres of the transversalis muscle instead of the cord. If the ligament was not found at the external ring, the surgeon should always look for it in the inguinal canal. Facility was gained by practice, for, whereas the speaker had occupied forty-five minutes in his first operation, the last was finished in fifteen.

DR. T. A. EMMET asked if there were not some danger of drawing down the peritoneum with the ligament.

DR. POLK had never met with this accident, even in cases of chronic peritonitis or cellulitis.

THE PRESIDENT regarded Dr. Alexander's description of the operation as faulty, because he had followed that surgeon's directions exactly, and had cut down upon the external ring without finding the ligament. It was afterwards found in a flap on one side of the ring. He had twice cut down as far as the peritoneum without unpleasant results, but without finding the ligaments.

DR. POLK could not understand how there was so much difficulty in finding the ligament, because, if the ring was found, the ligament must lie in it.

This the PRESIDENT denied so far as his experience went, for in his last (and unsuccessful) case, both he and Dr. Van de Warker, who witnessed the operation, searched in vain on both sides among the masses of fat over the ring, and between the distinctly exposed pillars of the ring, for any fibres that might fairly be taken for the round ligament.

TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF PHILADELPHIA.

Stated Meeting, Thursday, November 5th, 1885.

The President, B. F. BAER, M.D., in the Chair.

LYMPHATIC LEUKEMIA IN CHILDHOOD.

By JOHN M. KEATING, M.D.—The short paper which, by invitation, I propose to read to you this evening, will, I am sure, prove of interest on account of its clinical variety and the infrequency with which we meet the disease in current literature. To make the subject more interesting and more lucid, at the risk of recalling to your memory matters already familiar, I will premise with a few remarks on the blood in health in children and briefly with its diseases.

There is a uniformity of composition of healthy blood which is curious. This is brought about by that equilibrium which is so striking in textures regulated by the production and waste.

The blood corpuscles which we are called upon to study are, 1st, the *red*, of which there are floating in the plasma about 5,000,000 to the cubic millimetre. These are about $\frac{1}{3200}$ of an inch in diameter. 2d, the *white*, of a diameter of $\frac{1}{2500}$ of an inch, having the proportion of 1 to every 300 or 500 red. 3d, the nucleated red found in the fetus and infant, and disappearing about the third or fourth year of life. These may contain one or more nuclei in some instances protruding from the cell. They measure from $\frac{1}{1400}$ to $\frac{1}{2000}$ of an inch. 4th, the *hematoblasts* of Hogen—"small discoid, colorless corpuscles, normal constituents of healthy blood; in drawn blood they aggregate in clumps known as Schultze's granule masses." As to the origin of the red corpuscles I will quote: "They are developed from colorless corpuscles, the lymph cells or leucocytes. The nucleated corpuscles of the embryo also aid in the development. These nucleated cells disappear early in childhood and are then found only in the red marrow." It is Osler's opinion that "they apparently originate from colorless marrow cells which gradually become more homogeneous, and hemoglobin develops in the protoplasm, the nucleus degenerates and disappears, when the cell has the appearance of an ordinary red disc." Possibly these nucleated cells may give birth to red cells by the process of budding. The relations of the cytogenetic organs to blood formation has always been somewhat debatable ground; the present state of our knowledge may be formulated about as follows: "The spleen certainly takes part in the development of colorless corpuscles, but its participation in red blood formation is more doubtful; though the opinion prevails widely that the spleen is one of the important organs in the formation of

red corpuscles, the evidence for this belief is of an exceedingly scanty nature.

"The lymphatic glands and adenoid tissues in other regions are the seat of constant production of colorless corpuscles, but of their relation to the red corpuscles there is the same lack of information as with the spleen."

Neumann and Bizzozero pointed out the fact that the red marrow appears to be the seat of blood formation. In the adult it is the only region in which embryonic or nucleated red cells are found. In the young, the marrow fills the long bones.

It is Osler's opinion, and I have quoted from his recent admirable articles on this subject, that the evidences of the development of red corpuscles in the marrow rests upon the constant presence of nucleated cells infiltrated with hemoglobin and of their fission. In excessive hemorrhage, natural or induced, it appears to undergo active proliferation, and it is an interesting fact to notice the marvellous rapidity with which the red corpuscles are reproduced after a hemorrhage. The amount of hemoglobin in healthy blood, according to Preyer, is 13.45 grams to 100. This relation is important for us to have in mind, as it proves an index to treatment. The color-test being used, I feel certain that before long it will be a matter of more than ordinary interest to the general practitioner when the means of applying the color-test shall be generally adapted, as has been done already, to daily practice.

In the new-born the blood is said to amount to one-tenth part by weight of the body; in the adult, one-twelfth to one-fourteenth. I may also note that it has been shown by Neumann that the liver in the embryo may be the seat of the formation of corpuscles, though in the adult it is the seat of their destruction.

Let us now take up the subject of anemia in children. Were I to attempt to do justice to this condition, it would take far more time than your patience would allow. We will omit that caused by hemorrhage, by toxic agents, by mineral poisons, by miasm, by syphilis, in which we have an increase in the watery elements and a diminution in the albuminous, and consider that dependent upon disorder of the blood-making organs themselves, and here we meet with a most difficult problem. By the blood-making organs we understand the spleen; the lymphatic tissues, and the bone marrow, remembering, of course, that some of these tissues have also to do with blood destruction. We, however, definitely know that an increase in the cytogenetic tissues is associated with disturbances in blood-formation. The organs undergo a hyperplasia, particularly of their fibrous constituents, and the marrow of bone changes from normal appearance to one like spleen pulp. The blood of all patients suffering from anemia presents a reduction in the number of red corpuscles. This is true, no matter whether the seat of the trouble is located in the spleen, the marrow of bone, or in the general lymph glands; the white

cells may or may not be increased, the clinical features of a case of anemica will be strikingly alike, let the cause be in any one of the blood-making organs, all the more important symptoms will be present. To quote once more, such common features would be, "the progressive anemia with its group of circulatory symptoms, the irregular febrile reaction, essential fever of anemia, the absence of marked emaciation, the tendency to effusions of serum, the progressive debility, the recurrence of hemorrhages gastric and intestinal, gastric and intestinal disturbances, and the resistance to treatment."

These affections that have so many symptoms in common are grouped as distinct diseases under the following headings, viz.: leukemia, Hodgkin's disease (anemia lymphatica), splenic anemia, and idiopathic anemia.

Leukemia signifies a hyperplasia of the blood-making organs with anemia, and an increase in the colorless corpuscles. Of this form we have three varieties: the splenic, lymphatic, and medullary. Leukemia is present at all ages; the youngest case recorded by Osler being an infant of eight months. The chief symptoms are insidious onset, anemic appearance, bleeding at the nose or other hemorrhages, frequent diarrhea or other gastro-intestinal disturbance. The spleen is enlarged, gradually increasing in size from the onset, and finally it may interfere with the circulation and cause difficulty of breathing by pressure. Late in the disease the liver is also enlarged. The lymph glands in most cases are affected and sometimes slightly enlarged. The tonsils and follicles of the pharynx are usually enlarged. The lymph glands of the intestines and of the peritoneum are always enlarged. Fever is present and increases as the case progresses, and is usually of the remittent type. But the most important aid to differential diagnosis is the microscopical examination of the blood. This I give in detail in the case that forms the basis of this paper which I will now relate. I was called in consultation by Dr. I. W. Gadd, of this city, to see the child with him the latter part of last month, and the following notes were given by Dr. Gadd. Mamie McC., aged $4\frac{5}{12}$ years, had measles when about two years old, and from which she recovered without complication or sequelæ. About August, 1884, the tissue surrounding the eye became much inflamed and swollen. The swelling increased so much that the eyelid could not be opened for several days. After continued poulticing an abscess formed and broke, discharging a quantity of pus, and continued to do so for a considerable time, but finally healed up with small scar. The child never complained, yet was pale and did not want to play as other children did. I believe this was more due to her disposition than to the effect of any disease.

About midsummer, there appeared a rash all over her body, very thick, and resembling the eruption of measles; as it

matured, it was crowned by small white caps or heads. The epidermis soon came off in large patches. The child had no fever. As the eruption faded, the mother observed purplish spots, like bruises, making their appearance. These were considered by the parents to be bruises due to falls. No attention was paid to her condition until September 28th, when I was called in the evening to arrest an epistaxis which had existed most of the day. I found the child lying on a sofa, though able to sit up, with blood slowly trickling from the nose, each nostril containing a large clot. The child appeared very anemic, with slight fever, yet did not complain of anything except weakness. The mother stated that the appetite had been very poor for some time past. The bleeding from the nose was very easily arrested by removing the clots, and packing with a strip of lint in each nostril. I also gave the following internally:

R Acid. gallic.....gr. xxx.
 Acid. sulph. dil.....℥ xl.
 Ext. ergot. fl.....℥ xxx.
 Syrup.....fl. ̄i.
 Aquæ.....q. s. ad fl. ̄ij.
 M. et sig. A teaspoonful in water every hour.

Also ordering her as much milk as she cared to take, with the precaution that she should sip it slowly. Tuesday morning, I saw her, and found her in the same condition, except that the epistaxis had been arrested. I thought it best not to remove the lint packing. It now being daylight, her mother called my attention to the bruise-like spots over her body. These were in size from that of a two-cent piece to that of a fifty-cent piece, and two of them, situated one over each trochanter, were as large as silver dollars. With the exception of these two, they were all, I believe, situated over the soft parts, such as over the belly of a muscle, and varying in color, according to age, from a bluish-black to a greenish-yellow. She still had some fever, and her heart was more rapid in its action than normal; hence I gave her, in addition to the gallic acid and ergot mixture, the following:

R Liq. potass. cit.....fl. ̄i.
 Spis. æth. nit.....fl. ̄ij.
 Tr. aconiti rad.....gtt. xv.
 Syr. limonis.....fl. ̄iv.
 Aquæ.....q. s. ad fl. ̄ij.
 M. et sig. Teaspoonful every two hours.

Wednesday morning, I found her feeling somewhat better, though still having slight fever, pulse 124 per minute, and moderately weak in character. I did not detect any abnormal heart sounds. I removed the lint packing without any further bleeding, and with much relief to the patient. I then ordered tr. digitalis in three-drop doses every three hours, and also the following:

R Quin. sulph	gr. viij.
Tr. ferri citro-chlorid	fl. ʒi.
Syr. Tolu.....	fl. ʒi.
Aquæ.....	fl. ʒviij.
M. et sig. Teaspoonful every three hours.	

Thursday I found the patient, to use her own language, well; evidently much better. Fever had entirely subsided, the heart's action remained abnormally rapid. The cervical glands were slightly enlarged, but there was no enlargement of the tonsils, and apparently no inflammation of the fauces. Treatment was continued, with the addition of more nourishing food, beef-tea, wine-whey, etc. The child seemed so much better that I said it might come to my office the next morning instead of my going there. Later in the same evening, she took a sudden change for the worse, but I was not sent for until Friday morning. Now the patient was suffering from high fever, 104° F. in the axilla; pulse 134 per minute, compressible. The cervical glands much enlarged and very hard; the bowels had not been moved for twenty-four hours; the tonsils were but very slightly swollen; there were no patches in the throat. Thinking that possibly she was developing a malignant form of diphtheria, I at once put her on the calomel treatment until the bowels were moved, giving her three grains, repeated in two hours, and then two grains, when the bowels were moved freely, and the calomel was stopped. I also gave suppositories of two and a half grains of quinine every two hours, also:

R Liq. ammon. acet	fl. ʒi.
Spts. æth. nit.....	fl. ʒij.
Syrupi	fl. ʒiv.
Aquæ.....	fl. ʒij.
M. Sig. Teaspoonful every two hours.	

I continued the tr. digitalis in five-drop doses every three hours. I also applied hot flaxseed poultices to the enlarged glands, and at noon plenty of beef-tea and milk; but the child did not care for food, and it was difficult to get her to take any nourishment. At mid-day, I noticed for the first time, although I had carefully and frequently listened before, a systolic heart murmur. The temperature was but little affected during the night, and next morning (Saturday), at 7.30 A.M. I found it as high as ever, 104° F. in the axilla. Fearing that endocarditis had set in from the continuance of high fever and the heart murmur, I at once applied a mustard plaster to the pericardium, followed by a poultice, giving internally potassium iodide and ammonium carbonate, continuing the digitalis until noon, when I met Dr. J. M. Keating in consultation.

Physical signs showed, in addition to what has been mentioned, an enlargement of the spleen, yet there was no history of malaria.

Dr. Keating did not think that endocarditis had set in, believing the murmur to be rather of a hemic character, yet, as a stimulant to the heart, suggested the application of a blister, and internally, very small doses of Basham's mixture every three hours, with the free use of alcohol, beef-juice in small amount, etc., the temperature to be kept down to 102° or lower by means of the wet sheet. On examining a specimen of the urine which had just been passed, and the first that I had been able to obtain, I found it to be of sp. gr. 1.016, of a light-straw color, free from albumin and sugar. The child could not retain either medicine or beef-juice. The nose again commenced to bleed, to prevent which I again plugged the nostrils. Soon large clots of coagulated milk were vomited, the result of its having been given by half-cupfuls at a time, which was entirely contrary to my direction. Her stomach soon became settled, and she took brandy and crushed ice in small quantities. We wrapped her in a wet sheet, and then poured cold water over her until the temperature came down to 101° in the axilla, which required about thirty-five minutes. She was then wrapped in a blanket. In two hours, the temperature was again 104° . We gave several of the wet packs during the afternoon and evening, and notwithstanding we were at the same time giving two and one-half grains of quinine every hour by suppository, the same rise in temperature was observed after each. During the night, she took her medicine regularly; alcohol and water and beef-tea were also administered. Sunday morning (the day of her death), I found her, to all appearance, bloodless, pulse rapid and small, respiration shallow and frequent, temperature rising to 104° after the wet pack, as before. During Saturday night, she had removed the packing from the nostrils, which allowed a slight oozing of blood, and this having been swallowed, gave rise to vomiting of clotted blood; this continued, after the bleeding from the nose had been again checked, at intervals of ten to fifteen minutes, which gave me the belief that there was a slight hemorrhage into the stomach, these clots differing somewhat in form and color from those which I ascribed to the epistaxis. The heart became more rapid—138 per minute—and the patient gradually sank. She died at 6.30 P.M. in great agony, giving two or three shrieks, which were quite loud, considering her weakened condition.

Dr. William Osler had kindly examined for me a slide of blood, and reported as follows: "Report on slide of blood sent by Dr. J. M. Keating. Examination about three hours after withdrawal. *Red corpuscles* present no special alteration in size or shape.

"*Colorless corpuscles* greatly increased in number, fifty or sixty in each field of the No. 7 Hartnack. They present remarkable variations in size; many are small, not more than one-third the size of the larger forms; they resemble the smaller colorless cells which Virchow has noted to be present in cases of lymphatic leukemia. Many of the cells have feeble ameboid movements. Nu-

cleated red corpuscles not observed. Schultze's *granule masses* (often abundant in leukemia) scanty."

The relation of the increase in number of the colorless corpuscles above noted to the increase in size of the glands and cytogenetic tissue is indeed hard to solve. The increase in size and hyperplasia of the spleen in leukemia and anemia are histologically identical. We must remember that the view that colorless corpuscles are changed into red corpuscles is not fully established; hence, also, that it is not proven that the excess of colorless corpuscles is due to failure in the change to red ones. In such cases, the prognosis, when the disease is detected at its incipency, may be favorable under rigid treatment of fresh air, suitable diet, iron, quinine and arsenic, and salt-bathing; but in marked cases, that have existed for some time with advanced symptoms, the result is fatal.

DR. GOODELL inquired if there were any distinguishing points between purpura hemorrhagica and lymphatic leukemia. If there is a deficiency of red blood-corpuscles, why do red patches occur so easily?

DR. KEATING remarked that the subject under discussion was dependent upon certain conditions which physiologists are still debating. In leukemia we have as a diagnostic feature an involvement of the lymphatic system more or less, a hyperplasia of the tonsils, lymphatic glands of the peritoneum and of the intestines, also of the spleen and bone-marrow, all of them being more or less connected with red-cell formation; but the principal diagnostic point is the increase in number of the colorless cells, as is noted in Dr. Osler's report just presented. The hemorrhages in these cases are possibly due to a diapedesis or capillary rupture. In what is known as purpura hemorrhagica, there is an exudation of blood-cells, or the hematin from their destruction, into the rete mucosum and the papillary layer of the cutis. Of course capillary ruptures may occur, with profuse hemorrhage. The blood-cells (red) are usually diseased, they become crenated, or they cease to form rouleaux, and possibly the plasma may be at fault. The microscope alone will reveal the distinguishing features. Purpura may be considered a symptom accompanying a dyscrasia in which the blood itself is involved, not merely the organs of its production.

DR. WILLIAM GOODELL exhibited the ovaries from two cases of oöphorectomy, with the following histories:

OÖPHORECTOMY FOR OVARALGIA.

When the patient, an unmarried woman, aged 30, first consulted him, she weighed 236 pounds, but at the same time she was very weak and could barely walk. She suffered excessive pain at her catamenial periods, which appeared only at long intervals. She had cataleptic and hystero-epileptic fits, and complained of very constant and acute ovarian pains. Her urine was passed but once a day, and this act was attended with much suffering. The womb was enlarged, and the ovaries were very tender indeed, but nothing else abnormal was discovered. Assa-

fetida and the bromides were prescribed in large doses, and she was advised to try the rest treatment.

Fourteen months later, she was again brought by her physician to consult Dr. Goodell. She now weighed only 120 pounds, having lost 116 pounds, and she was in every respect worse, her ovarian pains being now constant and very acute, requiring large doses of morphia to control them. Her catamenia had not appeared for nearly four months, and tonics seemed to have no effect whatever on her. Her physician was compelled to be in constant attendance, and was liable to be summoned at any hour of the day or night to give her a hypodermic injection. Masturbation was suspected, but she always denied practising this habit. Nothing further could be done than the operation of oöphorectomy, which was accordingly performed, a few days later, at the hospital of the University. The ovaries were found much enlarged from cystic and interstitial degeneration, but there were no evidences of peritonitis or of cellulitis, which had been suspected. A corpus luteum existed in one ovary, a rectal hemorrhage or vicarious menstruation having taken place a few days before the operation. Her ovarian pains at once left her; she needed but very few doses of opium, which was given by rectal suppositories. Her convalescence was prompt, and she returned home in less than four weeks, free from all pain, and in a fair way to get perfectly well. The case was a typical one of the advantages of oöphorectomy, yet he (Dr. G.) thought that the operation was being performed altogether too frequently.

OÖPHORECTOMY FOR BLEEDING FIBROID OF THE WOMB.

In this case the lady was 37 years of age, and had been married eleven years. She gave birth to a child about seven years ago, and since then has had one premature birth at seven months and one miscarriage. She first noticed an abdominal tumor nine years ago, but her catamenia began to be free some time before this. Late in the year 1881 the catamenia began to be excessive. As nothing served to check them, early in the following year Dr. Goodell was consulted. He found multiple fibroids of the womb. Six tumors could be readily made out, of which two seemed pedunculated; the sound gave a measurement of 4.5 inches. Under ergot and ammonium chloride the patient improved for several months, then the menorrhagia became worse and finally a dribbling of blood kept up between the periods. In May of the present year she again consulted Dr. Goodell. She had been dribbling continuously from January and was much reduced in strength. Being a brunette, she exhibited the facies uterina in a most marked degree, the pigmentation being very dark and extensive. The womb now measured 7.5 inches. She was admitted into Dr. Goodell's private hospital, and on May 24th both ovaries were, without difficulty, removed. They were greatly enlarged by follicular degeneration, a condition which Dr. G. had repeatedly

seen in cases of fibroid tumor. The effect of the operation on the tumors, and especially on the main one, was astonishing. After two weeks, this fibroid had diminished in length nearly a hand's breadth. Her recovery was prompt, and she was sent to Atlantic City to recruit. On July 10th, just forty-seven days after the operation, she called on Dr. G., who found the tumors very greatly reduced in size, and the uterine cavity measuring only 3.25 inches, a diminution of 4.25 inches. This extraordinary amount of diminution, in spite of the fact that the obliteration of the ovarian blood-vessels cut off only a small portion of the blood-supply to the womb, drove him to the conclusion that the ovaries were the important factors in inviting blood to the womb. Every successful case in which he had removed the ovaries for fibroid tumor of the womb had been followed by the menopause and by rapid diminution in the size of the tumor. But in his hands and in those of others, this operation was more fatal than that of ovariectomy. During the ten months of the present year he had had twenty-five cases of ovariectomy with but one death, and that one in a lady operated on at her home, two hundred miles from Philadelphia. For simple cases of oöphorectomy the mortality should not be greater than that of ovariectomy. But when complicated with the presence of a large or an adherent fibroid tumor, the operation is often one of great difficulty. Twice during the past year he was unable to reach the ovaries and was compelled to abandon the operation, because in neither case was the woman willing to undergo the risk of having hysterectomy performed. Each case recovered, and while the women were under observation, the tumors appreciably lessened in size, as if the shock of the exploratory incision had temporarily suspended the ovarian influence.

DR. MONTGOMERY was glad to hear the good results in Dr. Goodell's cases. In a few of the cases upon which he had operated, the menopause did not at once occur, sometimes not for two years after the operation. In such cases the tumor did not decrease in size while menstruation continued. In the case of hysterectomy for fibroid tumors reported by Dr. Montgomery at the last meeting, the temperature at no time exceeded $101\frac{1}{2}^{\circ}$, and the patient left the hospital to-day perfectly well. He preferred removal of the uterus and its appendages entire when the ovaries cannot be removed in consequence of previous inflammatory changes. Ligation of blood-vessels supplying the tumor might be useful when nothing better could be done.

DR. BAER thinks that when the ovaries can be removed, it is the preferable operation.

DR. GOODELL has been so uniformly successful in removing the ovaries for the cure of fibroid uterine tumors that it is his choice. He has been notified that in a case of fibroid tumor of the womb, in a woman aged 33 years, he will be called in consultation; this will be the third. He will advise removal of the ovaries; if at the time of operation that is not found possible, he will close the incision, as the other operation is very dangerous, and the patient can

certainly live a few years as she is. In one case only of his oöphorectomies have the menses continued, and he thinks that in that case there must have been some supplementary ovarian tissue.

OVARIOTOMY.

DR. MONTGOMERY exhibited for DR. WARDER a large ovarian tumor and related the following history: The patient was a young woman. Her menses commenced at 17 years of age and had always been irregular. They ceased entirely for twelve months, and at the same time the abdomen was enlarging until the tumor reached above the navel. Fluctuation was doubtful; the mass seemed quite solid and pressed the uterus down into the pelvis. Anesthesia did not relax the abdominal wall, and diagnosis was doubtful. An exploratory incision, showing the pearly tint of an ovarian tumor, made it sure. Nothing would pass through the trocar, but some of the jelly-like contents of the tumor escaped beside it and passed into the abdomen. The large cyst was filled with small cysts. The patient did well for one week, then the pulse became rapid; but she has since been doing well, and is now rapidly recovering.

DR. GOODELL thinks the danger from the escape into the abdomen of cyst contents is overrated.

DR. BAER.—In the early stage of ovarian tumors, metrorrhagia is sometimes present; sometimes the menses are entirely absent. He should like to hear from the Society some reason for this inexplicable difference.

DR. GOODELL has observed the same facts, but can throw no light upon it.

DR. MONTGOMERY remarked that in this case both ovaries had undergone cystic degeneration. The second ovary contained numerous small cysts.

DR. BAER inquired about the treatment of the second ovary.

DR. MONTGOMERY replied that it was removed.

SOME USES OF COCAINE IN GYNECOLOGY.

By CHARLES HERMAN THOMAS, M.D.—Seldom does a new drug reach so sure a place in the confidence of the medical profession as that accorded to cocaine. I early began its employment in ophthalmic practice, and soon extended its use to a variety of gynecological applications. The results obtained have been so satisfactory that I now never go to such a case without cocaine in my bag or pocket. After considerable experience in its use, I am convinced that it is quite as valuable in the latter case as in the condition for which it was originally recommended. That it is a local anesthetic when applied to mucous surfaces is a familiar fact, but its property of reducing inflammation and engorgement of the same class of tissues is not so generally recognized, notwithstanding that is a point of considerable practical importance. This action of the drug is readily verified by observing the marked paleness and shrinkage which follows in a few moments after its application to surfaces thus affected. While this

condensation of tissue is to a considerable degree temporary, it seems to be of longer duration than the accompanying anesthesia. In some cases, the good results obtained by reducing hyperemia in this manner appear to be permanent. The common fear that it will fail to prevent pain may usually be overcome by placing a few drops of the solution on the tip of the patient's tongue, when the numbness produced seldom fails to induce full confidence in its efficacy. Cocaine hydrochlorate is the salt upon which my experience is based.¹

A four-per-cent solution, grs. iiss. ($2\frac{1}{2}$) to fl. ζ i. in water, acts well for most purposes, though a somewhat weaker or stronger one may sometimes be substituted with advantage. The addition of boracic acid, in the proportion of grs. ij. to the fl. ζ i., insures sterility of the solution.

When used it should be applied with thoroughness, the parts being first freed from mucus and some minutes allowed to elapse for its effects to develop; the time should be *not less than two minutes*, and in cases where considerable pain is to be anticipated, a strong solution, ten per cent or more, may be employed and the application repeated after an interval of two minutes, and in five minutes from the beginning the full effects of the drug may be looked for. That the anesthesia produced by cocaine is complete I have personally experienced, having made use of a four-per-cent solution by injection into the nostrils previous to an application of the galvanic cautery to the nasal cavity. The cautery had been applied on a previous occasion without cocaine and the pain was severe. With it not the slightest pain was felt, and I was conscious of the action of the cautery only by the hissing sound produced.

I have found it particularly valuable in certain cases of cervical endometritis in which, though there may be no erosion externally, and but little characteristic discharge, there is a state of extreme sensitiveness existing about the region of the internal os uteri, a probe or cotton easily bringing blood, and any application made to the part is liable to produce bleeding and severe radiating and ovarian pain. Cocaine, carefully applied with the syringe or the cotton-carrier, prevents the pain and bleeding which would otherwise follow the necessary medicinal application; the swelling being also materially reduced. The congestive or inflammatory stenosis which usually exists is consequently for the time relieved, and applications to the part itself, as well as to the entire endometrium, are greatly facilitated. In urethral caruncle, sensibility may be so destroyed that the painful excrescences may be clipped off and the site painlessly cauterized. Cocaine is also extremely useful in painful irritation and inflammation of the female urethral tract, and especially of the part just within the meatus, a condition attended with distress frequently referred to the blad-

¹ The price has been reduced to 10 cents a grain or less.

der. Appropriate medication is painlessly made after its application, which may be conveniently made by means of the glass medicine-dropper. As a means of preparation for the operation of stretching either the urethra or the cervix uteri, it is of unquestionable value. To precede the application of caustic to a chancre, it is also effective. I am informed by my friend, Dr. Lewis, who has had a large experience with the drug, and who uses it extensively and with great satisfaction, that plastic operations upon the vagina, where considerable surfaces are to be flayed, the cocaine anesthesia is insufficient to prevent pain. It has been recommended in dysmenorrhea, and there is good reason to believe, from several reports which have been made, that it is capable of producing excellent results when applied to the os uteri and to the cervical cavity by means of a small cotton-tampon. I tested it recently in a case of uterine colic, using it hypodermically in two doses of one grain each, about a half an hour apart, but without appreciable relief. It has been tried internally in doses of one grain or more in the vomiting of pregnancy, and has met with some favor, but in the only case within my own knowledge it entirely failed.

In a case of vaginismus brought me by a practitioner from a neighboring city, the condition was quickly relieved by the local application of cocaine, and a complete examination was easily made when, without its use, general anesthesia would have been necessary. In a case of hyperesthesia of the vagina, with mild vaginismus, in which frequent local treatment was required, a suppository containing one grain of cocaine, introduced into the vagina a half-hour before each treatment, entirely abolished the spasm, and rendered the introduction of the speculum easy and comparatively painless. Cocaine suppositories also produced excellent results in a case of rectal tenesmus after opium had proved insufficient.

Cocaine has been recommended in operations for lacerated cervix, and for the crushing of stone in the bladder. I have not made use of it in either of these applications, but strongly believe in its value.

In one hyperesthetic patient, in whom violent pain was developed on slight provocation, and who required local treatment of the cervix uteri and urethra, but who suffered so much from ordinary applications that the local benefit was fully counterbalanced by harm done nervously, it became necessary to suspend treatment on this account. After cessation for six months, treatment was resumed under cocaine, and it has since been in every way satisfactory; the pain formerly produced by applications to the cervix being now entirely absent. In the same patient, painful irritability, with spasm of the bladder, simulating cystitis, which was not entirely relieved by the opium suppository and other measures, yielded completely, and thus far permanently, to

a single injection of one grain of cocaine thrown into the bladder. The resumption of treatment in this instance was largely due to the enthusiastic approval of the husband, who had himself experienced complete relief from the injection of a drachm of the ten-per-cent solution into the deep urethra for a violent urethritism. In another instance, in a woman with irritable piles, red as a ripe strawberry, and who was suffering extreme discomfort, the piles shrank and turned pale under the cocaine application, and were then painted with tincture of iodine, with entire absence of pain.

DR. KEATING has used cocaine for some time in the same class of cases. He now uses eight-per-cent solutions with great success, especially in children's throats. He employs salicylate of cocaine in diphtheria in a five or six per cent solution; sensibility disappears in a short time, and he can then use any application without discomfort; he applies carbolic acid, tinct. of iodine, etc., in this manner without exciting pain. He also applies cocaine before injecting carbolic acid into piles, and also applies it on cotton to prevent its action ceasing too soon.

DR. THOMAS said that the strength of the solution may, with propriety, be greatly varied, and that in his practice upon the eyes, even a one-per-cent solution was strong enough to be of considerable value in conditions of irritation produced by foreign bodies in the eye; but in other cases, as urethral caruncle, it might be well to use it even in saturated solution. The question of strength is largely a question of expense, for in local applications no toxic results are likely to be produced.

TRANSACTIONS OF THE GYNECOLOGICAL SOCIETY OF CHICAGO.

Meeting, November 27th, 1885.

The President, DR. DANIEL T. NELSON, in the Chair.

DR. JOHN BARTLETT read a paper entitled

REMARKS ON THE TOXIC PROPERTIES OF SASSAFRAS.

After giving a historical sketch of the drug and the toxic effects of the oil given in doses of a drachm or more, the author said: "Years ago I was called to a woman among the poorer classes, of good intelligence and education, who was having a miscarriage. Upon my inquiring as to the cause of the mishap, with a prefatory reference to her poverty and already large family, she stated that she had induced the abortion herself—that she had done so on previous occasions. She had employed, she said, 'what other women used,' sassafras tea. She was surprised that I did not know of the property of sassafras as an oxytocic. She spoke as if all her friends knew how to use it as an ecboic, and she evidently looked upon it as a specific. Tea, she said, made

from four or five pieces of the root, as large as the thumb and twice as long, would produce abortive effect.

"A year or two later, I was called to a woman two months pregnant. For several days she had had symptoms of miscarriage of so pronounced a character that arrest of the process was doubtful. I found the patient very anxious to have a child; she disclaimed the intention of inducing abortion, and to all my inquiries as to a possible cause of the hemorrhage, she gave answers which left me no further question except this: 'Have you been drinking sassafras tea?' Surprised, she replied that for a week past she had used it at breakfast and supper. The proper remedies for her condition were prescribed, the possibly offending tea left off, and in twenty-four hours all was quiet *in utero*.

"Farther than this my experience with sassafras as a possible abortifacient does not extend; possibly some one present can supplement my remarks with knowledge or experience of his own.

"A study of the toxic effects of sassafras, as reported by Dr. Hill, would seem to show a triple resemblance to three familiar articles, opium, strychnine, and ergot.

"In its action as a narcotic and sudorific it resembles opium.

"In its property of inducing tetanic and clonic spasms, followed by paralysis, it is similar to strychnine.

"In its power hinted at of exciting the uterus, it may be likened to ergot.

"It may be of interest here to call attention to the fact that the first reference to the use of ergot as an ecbotic was made by Stearns in 1807, whereas it had been used by midwives certainly as early as 1688, and probably very much earlier."

DR. JAMES H. ETHERIDGE referred to the action of the oil of sassafras on the motor centres in the spinal cord supplying the uterus.

DR. EDWARD WARREN SAWYER said, in New England, sassafras was a popular emmenagogue. Mothers were in the habit of giving decoctions of sassafras and tansy to their daughters in case of delayed or suppressed menstruation. Many of the essential oils produced the effects ascribed to sassafras by Dr. Bartlett. In the South, oil of sassafras was a popular remedy for uterine disease.

THE PRESIDENT inquired as to the chemical constitution of the volatile oils.

DR. H. P. MERRIMAN replied that many of the volatile oils were identical in chemical relations, but differed in physical properties. Such oils were *isomerides*. The essential oil of lemons, of bergamot, neroli, lavender, pepper, chamomile, caraway, clover, etc., are isomerides of the oil of turpentine.

Oil of sassafras was an isomeride; whether or no of the turpentine group he could not say. Oil of turpentine was a hydrocarbon, possessing the formula $C_{10}H_{16}$.

DR. H. T. BYFORD was of the opinion that the oil of sassafras exerted its influence locally upon the alimentary canal and pelvic viscera, through which it was excreted, rather than upon the uterine nervous centres, as in the case of ergot. This would account for

its popularity as an emmenagogue, mentioned by Dr. Sawyer. He had recently given one drop, combined with one-half grain of piperin, every three hours, for two weeks, in case of typhoid diarrhea. Slight strangury, disappearing with the discontinuance of the drugs, was produced.

DR. CHARLES WARRINGTON EARLE presented for Dr. Joseph Haven

A TERATOMA,

corresponding in development to the third month, and bearing an asserted resemblance to a pup.

The following history was read:

Dr. Haven had attended the family of Mrs. H. for the past four years. During this time he had had occasion to notice that the younger daughter was a person unusually strong in her likes and dislikes, of a nervous temperament, slight build, yet a sensible, educated, and attractive girl.

On the 8th of September, 1885, this young lady, in company with her sister, called at his office to consult him with reference to her condition. He made the following entry in his case-book, as the result of her visit:

"Mrs. D., 19 years old, married one and one-half years, always regular as to her courses up to July 21st, since then no show. Physical signs point to pregnancy in the sixth week."

A few days later he saw her again. She was nervous and highly excited—almost hysterical. She told him in an excited manner that a dog had jumped on her, and that she "hated dogs." She complained of pain in the abdomen, low down.

From that day until the 1st of November, Dr. Haven saw her several times. Each time she was threatened with miscarriage, and each time she declared she was positive she could never carry that child. Her husband and sister told him that, asleep or awake, her mind seemed to dwell continually upon that dog; that she daily wondered if the child would be marked. Mr. D. said that ever since he has known her she has been afraid of dogs; she would always cross the street rather than meet one, and he has often jokingly refused to take her out with him, telling her, as an excuse, that they might see a dog, and she would make a scene.

On the night of November 1st, the husband roused Dr. Haven, desiring him to go over and see his wife, thinking it to be only a repetition of former attacks. An examination proved that Mrs. D. was about to lose the contents of the uterus. She was flowing constantly. The os had dilated slightly, and Dr. Haven could just reach the presenting part. The history of the miscarriage was the usual one, and the result is seen in the specimen presented.

She insisted on seeing the fetus, and declared it to be the image of a dog that had frightened her.

TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF LONDON.

Meeting, Oct. 8th, 1885.

J. D. POTTER, M.D., F.R.C.P., *President, in the Chair.*

The following specimens were shown

Diseased Ovary, by Mr. Doran.

Fetus and Placenta from a case of extrauterine gestation, by Mr. Grün.

DR. MATTHEWS DUNCAN read a paper

ON THE HYPERTROPHY OF LUPUS OF THE FEMALE GENERATIVE ORGANS,

of which the following is an extract:

Hypertrophy is not an essential part of lupus. Extensive ulceration may occur without any hypertrophy. Hypertrophy rarely occurs without some ulceration. Ulceration and hypertrophy are to be regarded rather as alternative conditions than as concomitants. The hypertrophy may be minute, or may approach that of elephantiasis. The destruction by ulceration in severe cases is greater than the growth by hypertrophy in severe cases. The hypertrophy affects the skin, the mucous membrane, the connective tissue, or the clitoris. The hypertrophy tends to be an outgrowth, not to grow deeply, like a cancer. Hypertrophies are generally morbid in form and appearance, but may resemble healthy natural parts. The hypertrophy may affect the thigh and hip. A hypertrophied part may be ulcerated, or the ulceration may heal without the hypertrophy being destroyed. Hypertrophies are generally not sensitive unless inflamed, but some small hypertrophies, especially urethral caruncles, are often excessively sensitive and painful to touch. Hypertrophies may vary in degree of induration; they are liable to inflammation. Hypertrophied parts may have polypous hypertrophies growing from them. The color may be red, brown, purple, or white.

MR. JONATHAN HUTCHINSON, while acknowledging the value of Dr. Duncan's carefully observed cases, felt bound to question his diagnosis. First, he thought lupus was a wrong term to apply to the disease, and secondly, he strongly suspected syphilis in all the six cases. Indeed, he was surprised at the absence of any disproof of syphilis in the cases. All the drawings looked like tertiary syphilis, and the history of the cases rendered a suspicion of syphilis justifiable. Chronic gonorrhœa complicating syphilis often produced great edema, and then hypertrophy of the female genital organs. Dr. Duncan's portraits showed these conditions; although not all alike, most of them showed a combination of elephantoid hypertrophy with ulceration and the formation of scars

He did not think he had seen true lupus, such as we see on the face, more than once or twice on the vulva, and it would be a pity if these cases were permanently recorded under that name; for not only were they very unlike common lupus, but lupus elsewhere on the body was not recorded in a single case. In Dr. Duncan's former paper, lupus of the nose coincided with this disease of the vulva, but even in this instance there was a perforation of the palate, a condition very rare in lupus, very common in syphilis. He entirely agreed with Dr. Duncan in his treatment by excision and free cauterization. The fact that these affections yielded to local treatment, and not to antisyphilitic remedies, was no proof of their non-syphilitic origin, for this was often the case with tertiary syphilitic affections. He believed these were cases of tertiary syphilis, and if the word "lupus" were applied to them, it ought certainly to carry the prefix "syphilitic."

DR. PLAYFAIR said that he had been in the habit of describing cases like those figured by Dr. Duncan as elephantiasis. He had seen many cases in India, and some of these were very like Dr. Duncan's cases. For his own cases he had used free incision. In his opinion, Dr. Duncan had only given a new, and questionable name to an old disease.

DR. GALABIN asked as to the histology of the disease, especially in its relation to new growths. In a case of perforation of the body of the uterus by an ulceration, shown by Dr. Duncan some time back, he had found some tendency to the characters of a new growth, in the fact that in some parts the cells were joined by tailed processes. He had also regarded lupus of the vulva as a very rare disease. In cases similar to those shown by Dr. Duncan, he had generally found some evidence of syphilis; they did not yield to antisyphilitic remedies alone, but yielded to excision, followed by such remedies.

DR. THIN had found the microscopical appearances the same in all Dr. Duncan's cases. There was in all the cases more or less small-cell infiltration beneath the epithelium, and a number of blood-vessels ran straight to this part. There were no marked inflammatory changes in the fibrous tissue, which was found in all stages of development. The changes found in lupus vulgaris were absent, but so were also those of syphilitic gumma, as well as of cancer and elephantiasis. The appearances suggested a persistent form of irritation acting peripherally.

M. VIDAL, of Paris, informed him that in about 150 cases of women affected with lupus vulgaris, the region of the vulva had not been affected once. Prof. KAPCSI, of Vienna, bore the same witness. He believed that Dr. Duncan's cases formed a separate disease, separate, that is, from syphilis, lupus vulgaris, cancer, and elephantiasis. He did not agree with Mr. Hutchinson, because, apart from the absence of syphilitic history, the appearances themselves differed from syphilis, compared with which the hypertrophy was out of all proportion to the ulceration, and the ulceration was not typically syphilitic in appearance, still less could he agree with Dr. Playfair as to the cases being elephantiasis, which was well known to be due to obstruction of lymphatic vessels by *filaria sanguinis hominis*.

DR. WEST believed that he was the first in this country to describe the disease; it was described twenty-five years ago in his lectures on the Diseases of Women. In none of his cases could either he or Mr. James Paget discover any evidence of syphilis.

Iodide of potassium in large doses produced no effect; for these reasons he differed from Mr. Hutchinson.

DR. W. DUNCAN mentioned the case of a large growth in the vulva which he removed two years ago and exhibited at this Society, when Dr. Matthews Duncan said he considered it a case of syphilis. The patient had well-marked tertiary syphilis, and ten months after the operation, a recurrence of the growth took place, which disappeared under large doses of iodide of potassium and perchloride of mercury.

DR. HORROCKS asked whether the author, in using the word lupus, meant lupus vulgaris, or syphilitic lupus, or a different disease. He mentioned a case in which he had removed a large growth from the vulva which had resisted anti-syphilitic treatment. The wound had rapidly healed, and this seemed to him to be against its lupoid nature.

DR. GAUDY asked Dr. Matthews Duncan as to the presence or absence of secondary syphilitic symptoms in any of his cases.

DR. GERVIS asked Mr. Hutchinson whether he thought hereditary syphilis could account for any of the lesions.

DR. MATTHEWS DUNCAN had observed this disease for more than twenty years and had always done his best to exclude syphilis. Mr. Hutchinson relied on the general appearances, the frequency of child-bearing, and vaginal discharges as evidences of syphilis. Now, every one at first held the same view, but many syphilologists and dermatologists and others here and elsewhere, and among whom Paget, West, Thin, Kaposi, and Vidal were mentioned this evening, had satisfied themselves that the disease was not of syphilitic origin. The disease was not new though little understood. There was a great literature of the subject. He could not himself entertain the notion of the syphilitic origin of a disease occurring in children, in virgins in all classes of society, confined to the genital organs, and destitute of any evidence of primary, secondary, or tertiary syphilis. The disease had an appearance and history quite distinct from that of tertiary syphilis. He could not allow that outward appearance, child-bearing, and vaginal discharges were evidence of syphilis. Dr. Playfair had said that it was elephantiasis, but it bore no resemblance to that disease in outward character, nor history, nor histology.

Mr. Hutchinson had said that it was not lupus, and yet he held that it was a kind of syphilitic lupus. Dr. Duncan had taken care in a former paper and elsewhere to point out that the disease, however much it resembled lupus in some points, was not lupus vulgaris, a disease which neither he nor others more experienced in dermatology had ever seen on the vulva. He called the disease lupus because it had been called so before and it was a much easier name than esthiomene.

He would soon lay a paper before the Society on the inflammation of this disease, and of its histology. He would only say now that the histology of Huguier, Paget, and Thin lent no support to the theory of syphilis.

Meeting, Wednesday, Nov. 4th, 1885.

J. B. POTTER, M.D., *President, in the Chair.*

The following specimens were shown:

Unusually large vein in wall of uterus, Dr. Lewers.

Malignant disease of sigmoid flexure invading uterus, Dr. Lewers.

Broad ligament cyst with septa in its interior, Dr. W. S. A. Griffith.

Drawing of chancre on cervix uteri, Dr. Herman.

DR. HERMAN read a paper on

THE SUPPURATION AND DISCHARGE OF PELVIC DERMOID CYSTS,

of which the following is an abstract:

The author first said that while, under ordinary conditions, pelvic dermoid cysts were best treated by laparotomy, yet that when such a cyst had suppurated and burst into one of the pelvic mucous tracts, there would usually be extensive pelvic adhesions, making the operation for the removal of such a cyst more than commonly difficult and dangerous, and, on the other hand, the suppurative process offered some prospect of cure without extirpation. The object of the paper was to assist in the treatment of these cases by offering as complete an answer as could be given to the following questions: (1) When a pelvic dermoid cyst suppurates and bursts, what may be the course of such a case? (2) What prospect of cure does this event offer? (3) Is this cure complete? (4) How can the cure be best promoted by treatment? It was commonly believed that so long as any part of the lining of a dermoid cyst remained, the cavity would not close. He thought there were sufficient cases to show that either this did not always hold good, or that suppuration usually so altered the character of the lining membrane as to make it capable of contracting and closing. The author had had under his own care three cases in which dermoid cysts had suppurated, in two of them bursting into the vagina, in one into the bladder. He had collected from various sources a large number of other cases, and from examination of them he drew the following practical conclusions: 1. The suppuration of a dermoid cyst is sometimes a favorable event leading to its cure. 2. This is especially likely to be the result if the cyst be small and unilocular, and if it have opened into the vagina. 3. An originally very small cyst may, when it suppurates, rapidly attain a very large size. 4. When the cyst is small it may become inverted through the aperture of discharge, become polypoid, and be spontaneously expelled or easily removed by the surgeon. 5. This process may be imitated by the surgeon, but it is not safe unless it can be very easily done. 6. When a suppurated dermoid cyst has been emptied, it contracts, and its cavity either becomes obliterated or remains as a small sinus, which causes no trouble. 7. The first indication in the treatment of a cyst which has burst is to empty it, for cure by suppuration depends upon the cyst being emptied. 8. The opening of the cyst should be enlarged as much as can be safely done, the cavity explored, and its solid contents removed as completely as can be done without violence to the in-

tegrity of its wall. 9. If the cyst have discharged into the bladder, its cavity should be reached by vaginal cystotomy, not by dilatation of the urethra. 10. If the cyst be multilocular, or if, after having been emptied as thoroughly as possible, it do not rapidly contract (from which it may be inferred that it has not been completely emptied), it is likely that it will discharge indefinitely and exhaust the patient's strength, and therefore it should be removed by abdominal section without long delay.

MR. KNOWSLEY THORNTON said he would refer to a few points only. First, as to cysts which opened into the bladder, the evidence must be very clear that they were ovarian, for dermoid cysts occurred in the utero-vesical cellular tissue. Second, unilocular dermoid cysts were very rare; most dermoid cysts were multilocular, or associated with ordinary multilocular ovarian tumors. Third, the pathology of dermoid cysts was against cure by suppuration, though it might happen from the violence of the putrid inflammation entirely destroying the skin, etc., lining the cyst. Unless the lining membrane was entirely removed or destroyed they did not heal. The fact that they were occasionally malignant was against attempting a cure by incision and drainage. He had treated a case in which the tumor burst into the bladder. He attempted to remove it by abdominal section, but found it impossible. He then attempted to cure by drainage, but after many weeks the patient died, worn out by discharge. He thought abdominal section was the better treatment, where possible, than lingering suppuration. With regard to the side issue of cystotomy versus rapid dilatation of urethra, he entirely agreed with Dr. Herman.

MR. ALBAN DORAN said that many dermoid cysts of the abdomen, which had been described as non-ovarian, were really ovarian cysts which had become separated from their pedicles. Pelvic dermoid cysts were undoubtedly non-ovarian in some cases.

DR. BRAXTON HICKS thought that many of these dermoid cysts were of the nature of the tumors called fetus in fetu.

DR. ROUTH thought most of them were in reality fetus in fetu. If a whole fetus might be inclosed, a portion might be. So far as he knew, no cyst containing teeth could have other than an ovarian origin.

DR. PLAYFAIR rose to indorse what had been said by Dr. Herman as to the advisability of not attempting to operate through a dilated urethra. Rapid dilatation of the urethra was very far from being as simple and safe as it was generally considered to be. His results from vaginal cystotomy had been so satisfactory that he was quite disposed to agree with Dr. Herman that in the class of cases he referred to it was likely to be preferable to urethral dilatation.

DR. GALABIN thought that Mr. Doran's views, if confirmed, might throw light on the mode of origin of these growths. Dermoid cysts, due to inversion of epidermis, only produced hair and fat. Growths due to attachment of one ovum to another were generally found at some external part. Cysts producing teeth or bones were hardly ever found where they could not be derived from the ovary. If it happened that a liberated unimpregnated ovum became implanted on the peritoneum and there grew, this explained why such growths were found in the pelvis and not at other parts.

He was strongly of opinion that vaginal cystotomy was far preferable to dilatation of urethra for the removal of any growth. He had been struck with the facility of the operation, the rapid recovery of the patient, and the ready closure of the opening.

DR. HERMAN said that although many dermoid cysts were multilocular, cases given in his paper showed that some were unilocular and might be emptied. He agreed with Mr. Thornton that intentionally to treat a dermoid cyst by incision was not good practice, but his paper dealt with cysts that had already burst, or could not be distinguished from abscesses. The case mentioned by Mr. Thornton, in which he had been unable to remove a suppurated cyst, showed the utility of considering the questions raised in the paper.

A paper by MR. S. D. HINE (Ilminster) was read on

A CASE OF OBSTRUCTED LABOR IN WHICH SPONTANEOUS VERSION FOLLOWED AN UNSUCCESSFUL ATTEMPT TO DELIVER BY THE CROTCHET AFTER PERFORATION.

The patient had been in labor thirty hours, liquor amnii escaped twenty-one hours. The cord was prolapsed; the head presented in first position; os uteri dilated; uterus in state of tonic contraction; conjugate diameter of brim under three inches; head immovable above it. After ineffectual attempts to deliver with forceps, the skull was perforated, and for about an hour endeavors were made to deliver with the crotchet, but in vain. A consultation was then held which lasted about ten minutes, and, on examination at the end of this time, the head presentation was found changed into a breech. A foot was then brought down, and the child thus delivered.

DR. ROBERTSON asked why turning was not done before.

DR. BANACLOUGH thought that turning might have been done after perforation. Art ought to have anticipated nature.

DR. AUST. LAWRENCE preferred forceps to turning in cases of contracted brim. He did not think that a living child could here have been brought through by turning.

DR. PLAYFAIR thought the practice followed in this case was correct. There were two reasons why turning should not have been done; (1) the long prolapse of the cord; (2) tonic contraction of uterus. Turning was a valuable occasional resource after craniotomy; but he did not think it should be the rule.

Meeting, Wednesday, Dec. 2d.

J. B. POTTER, M.D., F.R.C.P., *President, in the Chair.*

The following specimens were shown:

Pyo-salpinx, Dr. Lewers.

Corroding ulcer of uterus, with microscopical sections, Dr. John Williams.

Early extrauterine pregnancy, Dr. Walter Griffith, for Mr. Strugnell.

Pregnancy in bicorned uterus, Dr. Campbell Pope.

Double monster, Dr. Galabin, for Dr. Lewis Jones.

The following papers were read :

CASE OF PROTRACTED PREGNANCY.

By DR. ARNOLD THOMPSON (Amphill).—The patient was a delicate woman, not long married, who had had a miscarriage previously, occasioned by a shock. After this, menstruation recurred, and the last period ended June, 1884. Her husband left home a week after, and returned on Monday, June 16th, for one night only, on which coitus took place. He left home the next morning and was away for four months. Soon after the husband's departure signs of pregnancy appeared. Delivery took place April 13th, 1885, 317 days after the end of the last menstruation, or 301 days from the last coitus. The dates were absolutely certain. The child was not weighed or measured; it was a female, and appeared of full average size and weight. According to Prussian law the child would be legitimate; according to Scottish law and the French code, it would be illegitimate; in England its legitimacy would be determined by circumstances.

DR. GRAILY HEWITT inquired whether anything was known as to the duration of the menstrual interval in this case. The late Dr. Tyler Smith was of opinion that a relation subsisted between the duration of pregnancy and the menstrual interval. In Casper's Work it was stated that Cederschjold had observed cases of excessive prolongation of pregnancy in cases where the menstrual interval was unusually retarded.

ON THE INFLAMMATIONS OF LUPUS OF THE PUDENDA.

By DR. MATTHEWS DUNCAN, with histological observations and remarks on lupus by DR. THIN.—In this paper the peculiar inflammations occurring in the course of the disease are described, as well as the strictures which also occur. These conditions are contrasted with such as occur in connection with malignant disease. Their treatment is also entered upon.

The histology of the disease has already been briefly described by Dr. Thin, and will be found in the report of the October meeting of the Society.

DR. HERMAN had seen two cases of stricture of the female urethra due to general fibrous thickening of the wall of the canal. In neither of these was there any evidence of lupus or history of any inflammation or ulceration. Dr. Fleetwood Churchill, in his work on diseases of women, described under the title of "Spasmodic Stricture," two cases which seemed to Dr. Herman to be of the same class.

DR. MATTHEWS DUNCAN said that the subject was far from being exhausted. He entertained some hope of entering upon, and laying before the Society the bibliography of the disease, its nomenclature, and, still more important, its alliances.

A CASE OF SPURIOUS LABOR.

By DR. H. ROXBURGH FULLER.—The patient, a short spare woman, aged 31, became pregnant, as she supposed, for the fifth time in 1882. She had been married over eleven years, had borne four

children, and had never miscarried. Her last child was born August 31st, 1881, and she suckled it until August 3d, 1882. On that day she noticed a pink discharge "like a birth-show" and felt the movements of a child. She at once weaned her child. She had never conceived before while suckling, and she had suffered from morning sickness since April, but did not think herself pregnant till she "quickenened." From this date the sickness ceased.

On cross-examination, it was found that the sickness was irregular and occurred at any time of day; also that the catamenia, absent from the birth of the child till the "show" in August, returned naturally in September, scantily ten days later, and at irregular intervals in October and November. In December ordinary morning sickness began, and persisted till "labor" began. In December the catamenia were absent.

On January 1st, 1883, "labor" began with "ruggling" pains in the stomach and thighs, which continued during the 2d and 3d, but on the 4th, true labor came on, the pains becoming strong, frequent, and forcing; the "waters" soon broke, and she sent to St. George's Hospital for assistance. Nine hours later the student in attendance sent for Dr. Fuller as Resident Obstetric, reporting that the labor was making no progress, and that the patient was becoming exhausted. The patient remarked to Dr. Fuller that she thought it was a cross-birth, as she missed the pressure of the child's head. The author found all signs of advanced pregnancy absent. The pains occurred every three to five minutes, and the bearing-down forced the small cervix uteri nearly to the vaginal outlet, while at the same time urine escaped.

The pains were typical of the second stage of labor. Dr. Champneys was called to the case, and diagnosed a pregnancy of six weeks, which proved to be correct. He also succeeded in convincing her that she was not pregnant, her belief in her pregnancy having been unshaken till then. Dr. Fuller remarked on the belief in pregnancy which persisted in the absence of all signs and of all symptoms except "fetal movements"—on the occurrence of true conception during the progress of the case, which was not disturbed by the "labor." He also alluded to the two classes of spurious pregnancy, (1) in which all symptoms except fetal movements are absent, and (2) the class in which the mammary and other sympathetic signs are more or less marked. The latter class, as Harvey points out, is noticed in animals.

DR. PHILIP JONES referred to a case in which a patient suffered from morning sickness with cessation of menstruation for four months, and enlargement of the abdomen. At the end of the seventh month, a severe attack of bronchitis occurred, and a week later the abdomen began to diminish, and at the end of three weeks all signs and symptoms of pregnancy disappeared, and the menses returned.

DR. GERVIS alluded to two cases of spurious labor, in one of which an elongated cervix was mistaken by the attendant for the

foot of a child; in the other, the attendant had diagnosed a head presentation; the uterus was quite small, though the pains were active.

DR. CAMPBELL POPE related a case in which a patient suffered from morning sickness, felt movements, and increased in size, and had strong labor pains at supposed full term. The uterus was not enlarged. She was not anxious to have a child, and was with difficulty persuaded that she was not in labor.

DR. ROUTH said that most obstetricians had seen cases of spurious labor. He referred to two cases, in one of which the pains were regular, strong, and characteristic in locality and regularity. During the pains the uterus was nearly forced out, and the os seemed to give slightly to the finger. The pains continued for several hours. It was thought that a miscarriage might be impending, but as no progress was made, a full dose of opium was given and the "labor" ceased. Both patients were hysterical.

DR. HERMAN said that it was quite certain that spurious pregnancy was not simply a hysterical affection (as Dr. Routh said), for it occurred in the lower animals. The question of the labor pains which occurred was interesting, for the uterus had been seen to contract in cases treated by abdominal section, and it was reasonable to suppose that these pains were of this nature. Cases related this evening showed that in labor-pains occurring in spurious labor there were uterine contractions.

DR. CHAMPNEYS said that well-recorded cases of spurious labor were very rare, and Dr. Fuller's seemed to him the best yet recorded. The patient, who was the mother of several children, did not seem at all hysterical, but merely to be possessed by a false idea. An offer on his part to adopt the child if born within four months brought the pains to a standstill; he dared not name a longer time on account of the signs of early pregnancy. In this case (as in Dr. Gervis') a malpresentation (in this instance a face presentation) was diagnosed by the first attendant. He thought that evidence as to true uterine contractions must be entertained with great caution, and it must be remembered that the true uterine contractions in extrauterine pregnancy, referred to by Dr. Herman, concerns a uterus which, if not truly pregnant, is that of a pregnant woman.

DR. GALABIN related a case illustrative of the fact that spurious labor might be misleading to the diagnosis. In this case pregnancy seemed to have been protracted some weeks beyond term, and fetal movements were said to have ceased. There was a firm irregular abdominal tumor extending into the pelvis behind, and pushing the uterus forward and upward. The part behind the uterus was suspected to be the fetal head, and Dr. Braxton Hicks and he diagnosed extrauterine gestation. The case had been sent up as one of extrauterine gestation or missed labor. One evening labor-pains came on, the vagina was relaxed, glairy secretion appeared in quantity, the os was within reach, and seemed to be dilating. Exploration of the uterus found it empty. The diagnosis was thought to be rather confirmed by the spurious labor. As matters were quiescent, the patient was sent home. Three years later she returned, stating that the tumor had at first diminished, then grown. Part of it fluctuated, the round mass behind the cervix remained. It was thought that fluid might have been effused into the gestation sac, or that it might be complicated by ovarian tumor. Symptoms of collapse suddenly set in; he

performed abdominal section, and removed two unruptured ovarian tumors. Recovery followed.

TRANSACTIONS OF THE ALUMNI ASSOCIATION OF THE WOMAN'S HOSPITAL IN THE STATE OF NEW YORK.

FIRST ANNUAL MEETING, HELD IN NEW YORK, JANUARY 20TH, 1886.

Morning Session.

The Association was called to order at 10:15 A.M., by the President, DR. J. B. HUNTER (New York), who delivered the opening address, devoted to a sketch of the earlier history of the Woman's Hospital, with reference, in particular, to the duties and characteristics of the first Alumnus, Dr. T. A. Emmet. The total number of Alumni was sixty-two, and, of this number, six were deceased.

DR. W. H. BAKER (Boston) read a paper entitled:

THE TREATMENT OF CANCER OF THE UTERUS: HIGH AMPUTATION VS. TOTAL EXTIRPATION.

This paper was offered, in particular, as supplementary to one on the same topic published in this JOURNAL in April, 1882, and the author reiterated strongly the views then advanced, as well as gave additional information in regard to the result, up to date, in the cases wherein he had, in 1882, performed the operation which he preferred and had devised. The steps of his operation he again described minutely, and stated that it differed essentially from the high amputation devised by Sims, in that the excised cone extended higher up into the body of the uterus, and, therefore, the chances were greater that the entire disease would be eradicated. By his method, not only the whole of the supravaginal cervix was removed, but also at least one-half of the body of the uterus—an important point, because here was the preferable site for cancer. In case the disease has extended on to the anterior or posterior vaginal wall, he does not hesitate to excise these portions as well, and this he has done in several cases. In brief, the advantages of this method of operating are: 1. More of the uterus may be removed than by any other method of high amputation. 2. The peritoneal cavity need not be opened. 3. There is a larger percentage of cures. He reported, in 1882, ten cases operated on

by this method, and at the present date the status of these patients is: 1 case still well eight years after operation; 1 case after six years and two months; 1 case, six years after; 1 case, recurrence after two years; 1 case, well five years and three months after; 1 case died at end of four months; 1 case, well after four years eight months; 1 case, after four years. He has had no death immediately after operation. The proportion of cases is small, but then the cases are few which are seen in time to allow of radical operation of any kind. His results then, in percentages, are—60% of those operated upon were well four years and over. The best reported result from other methods of high amputation is 7.3% deaths from the operation; whilst the latest figures for vaginal hysterectomy give a mortality from 341 cases of 27%, and of 97 cases 20% were well after three years. He has performed but one kolpo-hysterectomy, with recurrence in five months. This operation is, under favorable figures, four times as dangerous as high amputation, but still, in a small ratio of cases, it has its proper field: where there is cancer of the body alone, or of the body and secondarily of the cervix. After any operation, patients cannot be considered cured till four years have elapsed without recurrence.

DR. A. P. DUDLEY (New York) asked if, when the disease had extended to the anterior vaginal wall, it was possible to operate, according to the method described, without injuring the bladder.

DR. COE (New York) said that it was impossible to feel sure that the broad ligaments were not implicated, and, therefore, we should always hesitate about performing vaginal hysterectomy. There was, and always would be, a strong measure of chance in this operation. He agreed with the statement made by Mundé, and which he thought had been overlooked, that a case for total extirpation was rarely found.

DR. GOFFE (New York) asked if Dr. Baker could always feel sure he had removed the disease entirely, and if so, how?

DR. CURRIER (New York) believed that palliation rather than cure was the most that could be expected from any radical operation, in the large majority of cases. Although Dr. Baker's statistics were the best yet obtained, even they were rather disheartening. Any operation, however, was justifiable, even though it relieved the patient only six months.

DR. BAKER, in reply, said that all he cared to ascertain before the operation was the movability of uterus. After beginning the operation, he could tell by touch the extent of the disease upward. He did not fear to remove a portion of the vaginal wall if the disease affected it, and, as for the bladder, he would, if need be, cut out a piece of the viscus. He feared rather the cases where the infiltration had extended laterally. Anteriorly the ureters were the organs to be avoided.

DR. W. GILL WYLIE (New York) read a paper entitled:

THE USE OF UTERINE DILATOR IN THE TREATMENT OF DYSMENORRHEA, AND AS AN AID IN INTRAUTERINE THERAPEUTICS.

The reader demonstrated his modified Sims dilator, cervical

protector, and hard-rubber cervical drain tubes, instruments which he was in the habit of using in dysmenorrhea, and for intrauterine medication. He thought that dysmenorrhea was ordinarily dependent on a hyperesthetic state of the cervical and uterine mucous membrane, and the aim of the treatment was to allay this. He urged the necessity of getting rid of all peri-uterine tenderness, and securing a movable uterus by means of glycerin tampons and hot-water injections before resorting to treatment. In simple cases of dysmenorrhea, gentle dilatation, repeated once a week for a while, accompanied by tonics, ordinarily sufficed. Where there existed a spasmodic element, however, and where there existed sterility, he was in the habit of incising the cervix posteriorly down to the vagina, and then divulsing under an anesthetic. It was after this process that he placed his drain tubes in the canal, above the internal os, using them instead of a stem. The tubes, being of hard-rubber, could be heated, and given the desired curve. Thorough antisepsis should characterize every step of this operation. He prefers this method to Goodell's rapid dilatation, because by this the cervical tissues are apt to be torn. He has also found dilatation of value after the menopause, where, on passing the sound, he determines a similar hyperesthesia at about the internal os.

DR. W. E. MOSELEY (Baltimore) did not believe that the aim of slight dilatation was accomplished as well by Wylie's dilator as by graduated conical sounds. He had also noticed the utility of dilatation after the menopause, in cases where there existed slight discharge, and nervousness, and stenosis at internal os. For thorough dilatation he preferred Sims' trivalve dilator, occasionally paving the way for this by Wylie's. In a personal case, which he related, Wylie's dilator had proved too weak to stand the applied pressure. He believed that, through the trivalve dilator, the effect was more thorough, and less harm was likely to be done, owing to the screw attachment for regulating the dilatation.

DR. GOFFE thought that dilatation was especially of value in case of sterility. He much preferred, to rapid dilatation under ether, gradual dilatation once a week during the intermenstrual period.

DR. B. McE. EMMET stated that he did not believe in obstructive dysmenorrhea, but that pelvic inflammation was at the bottom of every case. Every case of dysmenorrhea was better treated by local applications to the vaginal vault, and constitutional treatment, than by dilatation, excepting, of course, where stenosis, the result of caustic applications, etc., existed. As for intrauterine therapeutics, the uterine canal had better be left religiously alone. The uterine mucous membrane is over-treated when periuterine inflammation is at the bottom of symptoms.

DR. PORTER (Providence) asked for information in regard to permanency of results, and as to how rapid the dilatation should be.

DR. WYLIE, in closing, said that the dysmenorrhea might return with impaired health, but that in ten years of experience he had not had a failure. The hyperesthesia, the prime factor, is not likely to return. Thought that very few gynecologists would agree with Dr. Bache Emmet. He stated that Sims gave up the

trivalve and screw long before he died, and used the instrument which he (the speaker) had modified, mainly by curving the tips. As for the danger from dilatation, there is none if proper antisepsis be resorted to. The objection to conical dilators is that they are apt not to dilate where we wish, at the internal os.

DR. A. F. CURRIER (New York) read a paper on

LOCAL VS. GENERAL TREATMENT IN GYNECOLOGY.

The reader contended that much of the opprobrium cast upon gynecology as a specialty arose from the fact that it was a new science, and a fashionable science, and that, therefore, the practice was likely to be abused by unskilful men. From the errors and extremes of our predecessors we might learn much of value for the future. We were still all too much inclined to ride hobbies, whilst we should rather be studying uterine pathology in order to practise better. The dependence of local symptoms on general systemic causes should never be forgotten. In a large proportion of women, all that is needed towards efficient treatment is common sense and tonics. Constipation is especially frequently at the bottom of symptoms which, at first glance, point clearly to the uterus or its neighboring organs. Every organ of the body should, in turn, be examined before jumping at the conclusion that there exists uterine disease. He would protest against the unnecessary frequency with which vaginal examinations and local treatment were resorted to. Over-treatment is the bane of gynecology. Gynecology means medicine, and the application of common-sense principles to medicine constitutes gynecology.

Afternoon Session.

The Association reconvened at 2 P.M., Dr. Hunter presiding.

DR. INGALLS (Hartford), in discussing Dr. Currier's paper, said that the tendency after leaving the Woman's Hospital is to account for all symptoms by the local conditions, but that, with enlarged views and practice, it was found that general causes often were at the bottom of local symptoms, and that the reverse was equally true. Usually we could only expect the best results for our patients when we combined general medication with local.

DR. P. H. INGALLS (Hartford) then read a paper on

THE NON-SURGICAL TREATMENT OF ANTERIOR DISPLACEMENTS.

The reader contended that each case required special treatment, because there was no common cause. Emmet believed that the symptoms accompanying these displacements were the results of pelvic cellulitis. Thomas, that the position of the uterus and the state of the uterine canal caused the symptoms. The reader did not resort to surgical treatment for the relief of symptoms dependent on ante flexion. He was afraid of cutting and the glass stem. Although he had never tried either, in the practice of others he had seen serious results. The stem was an irrational instrument, and,

ultimately, would be abandoned. It could not effect a permanent cure, and was likely to do harm whilst being worn. Rapid divulsion he believed to be less dangerous in its results than dissection. He often made use of simple dilatation, and, if persisted in, cured. Neither simple nor extensive dilatation should, however, be attempted if there were any signs of pelvic exudation. As for pessaries, in anteflexion he did not know of one which was good for anything. His own experience in the treatment of ten cases was: The hot douche should be ordered till all trace of thickening has disappeared. Where there is spasmodic pain at menstruation, he uses Molesworth's dilators once a week, and just before the period. If uterine congestion be present, under iodine to the vault and glycerin tampons, great improvement would ensue. Attention to the general health should be the cardinal accompaniment of any treatment.

DR. CHAMBERS (New York) agreed in the main with the reader of the paper, although he thought that treatment a little more radical would affect cure more quickly. Incision and dilatation he did not consider dangerous. It required only weeks, instead of months, of treatment. The stem must be watched, of course, whilst worn, and it must be worn from one to six months. In from fifty to seventy-five cases treated by this method, he had seen no bad results.

DR. CURRIER considered gradual dilatation very satisfactory, compared with forcible dilatation and incision.

DR. CHAMBERS said, in addition, that where harm resulted from a stem, he believed this to be due to the fact that thorough antisepsis had been neglected. This was the key-note to the successful use of the stem.

DR. INGALLS, in reply, said he had yet to see the case where incision had not done harm.

DR. GEO. T. HARRISON then read a paper entitled

BRIEF STUDY OF THE CAUSES OF RETROFLEXION AND PROLAPSE OF THE UTERUS.

The reader treated more particularly of retroversio-flexio. Acute backward displacement may result in the unimpregnated organ, but usually the condition is chronic. The prevalent view that backward displacement usually follows on the puerperal state was not correct. The reader sought the cause in: 1. Arrest of development—the short vagina is ordinarily an accompaniment of retro-displacement, and, 2. Relaxed condition of the uterine ligaments, particularly the folds of Douglas (the *musculi retractores* of Luschka). There results loss of posterior fixation. One factor causing this weakened condition is parametritis posterior (Emmet). The *retractores* becoming atrophic, the cervix losing its posterior fixation, at first effort, perhaps on account of full bladder, the fundus falls backward. A further cause of posterior displacement is laceration of the cervix. Neither prolapse of the vaginal walls, nor subinvolution can cause retro-displacement. If the ligaments are performing their normal function, it was impossible

for a full rectum or bladder or strong abdominal effort to dislocate either the puerperal or non-puerperal uterus into retroversion or flexion.

DR. T. ADDIS EMMET said that in a state of health, with normal uterine ligaments, displacement is not likely to occur. Local cellulitis, following on laceration of the cervix, was the cause of displacement commonly. Flexion was only an exaggeration of version. The organ prolapses before it retroverts, and it is the prolapse which causes the symptoms. The rational treatment then should consist in raising the uterus to its normal level. The common mistake is to force a retroverted uterus forward, and thus make traction on inflamed ligaments. By raising the uterus we restore the circulation. Forcible replacement may light up a cellulitis. It is from inattention to these truths that so many fail with pessaries.

DR. GOFFE was glad to see such stress laid on the ligaments as the supporters of the uterus instead of the perineum. All the other organs are held in place by ligaments, instead of resting on a supposititious shelf, why not the uterus? The perineum may be torn entirely through, and yet the uterus remain in place.

DR. DUDLEY believed that the most common cause of retrodisplacement was arrest of involution. This is accompanied by enlarged vagina and elongated ligaments. The ultimately resulting areolar hyperplasia must first be treated before we can expect to handle the version scientifically. He referred to the beneficial effect of trachelorrhaphy in reducing hyperplasia, and this of itself tends to relieve the displacement.

DR. HARRISON, in closing, said that he did not believe that the perineum gave support to the uterus, and he insisted that, if the ligaments were doing their work properly, subinvolution could not produce retroflexion.

DR. H. C. COE (New York) read a paper on

THE EXAGGERATED IMPORTANCE OF MINOR PELVIC INFLAMMATIONS.

He stated that he did not write purely from the standpoint of the pathologist, and that in the statements he should make he did not wish to appear as dogmatically at variance with the opinions held by T. Addis Emmet. His aim was simply to give expression to his honest opinion, deduced from careful clinical and pathological work, and this was that the minor degrees of peri-uterine exudation were much exaggerated in importance, especially since not only he, but other pathologists, had utterly failed to find, post mortem, any evidence of what, clinically, almost every gynecologist was in the habit of feeling and diagnosing daily. He referred especially to what was denominated "old (chronic) thickening," and which was taken as evidence of an antecedent exudation into the pelvic cellular tissue. He questioned if the minor pelvic inflammations could be differentiated, in the living, by touch, any more than they could be post mortem, and if so, he would also question if these so-called thickenings ought to be deemed as contra-indicating surgical operations. The site of these thickenings was usually in the broad ligaments near the cervical junction, and

in the posterior folds of the peritoneum, which were denominated the retro-uterine ligaments. In any case of peri-uterine inflammation, peritonitis was the predominating element. He believed, from post-mortem findings, that the indurations and thickenings were the result of cicatricial tissue in the peritoneum and not of cellular inflammation. It is contraction in the vaginal vault which draws the cervix to one side or the other, and not contraction in the broad ligament. Neither local tenderness nor induration suffice to make the diagnosis of cellulitis, because over the site of these signs there is no inflamed cellular tissue. As for the so-called posterior ligaments of the uterus, seeing that they contain the *musculi retractores*, they may normally contract, so that apparent thickening may just as well be due to contraction. Increased tension as a sign of cellulitis is purely relative, and under anesthesia this increased tension disappears. To what extent, then, does "old thickening" contra-indicate operative interference? These thickenings, being only cicatrices, can hardly exert much influence on the pelvic vessels. It is not these indurations which cause trouble, but the inflammatory results higher up which the finger cannot detect. Adhesions from a former peritonitis were far more dangerous than slight cicatrices from cellulitis. Whilst he did not think, therefore, that old indurations contra-indicated surgical manipulations, he desired to state that he was clinically as careful as any one in his behavior towards a uterus with the forbearance of which he was unacquainted. He did not rashly use the sound or make applications. He could not, however, see how hot water and iodine could be of the slightest benefit in dispersing these, in importance much-magnified, old thickenings.

DR. T. ADDIS EMMET said that he used the term cellulitis simply for want of a better. He did not think that after all there was such a great disparity in the views just enunciated by Dr. Coe and those which he himself held. He feared, however, that the publication of Dr. Coe's paper might lead to harm, because the inexperienced would feel justified in doing much more than was warrantable. He (Dr. E.) took an extreme view in order to warn the non-expert. He was firmly of the opinion that pulsation and tenderness were signs of import of something, no matter what it was called, of which we must beware. If he could not trust to hot water and iodine for getting rid of this tenderness, he would give up the practice of gynecology.

DR. WYLIE stated that his experience had been rather on the living than on the dead, and that his views were based on observations drawn from a large number of laparotomies. He had been called a "tube" man, but nevertheless this did not shake his belief in the fact that in at least four-fifths of pelvic troubles the origin was in the tubes. He was satisfied, from ample clinical observation, that the bursting of small cysts often caused local exudations, in four cases out of five it was the posterior layer of the broad ligament which was affected. The adhesions in the posterior layer contract, and the ovary and tube fall down posteriorly from their normal position. In all his cases but two, he had

found old adhesions, the result, in all probability, of passage of fluid from the tube.

DR. T. A. EMMET said that if what he called thickening was the prolapsed tube, we ought never to operate in such cases, because the condition readily disappeared under appropriate treatment.

DR. COE, in closing the discussion, reiterated that his remarks referred purely to "old thickenings," and not to acute exudations. The point he wished specially to emphasize was that clinically we could not recognize such thickenings as a result of cellulitis.

TRANSACTIONS OF THE GERMAN GYNECOLOGICAL SOCIETY.

SECTION XVIII. OF THE FIFTY-EIGHTH ANNUAL MEETING
OF GERMAN NATURALISTS AND PHYSICIANS,
HELD AT STRASSBURG.

(REPORTED BY M. GRAEFE, M.D., HALLE A. S.)

(Translated from the *Centralblatt f. Gynäkologie.*)

(Concluded from p. 106.)

BAYER (Strassburg) read a paper on

OPHTHALMOSCOPIC APPEARANCES IN SEPTIC INFECTION.

In the winter course of 1880-81, the speaker had the opportunity of observing a number of cases of puerperal fever, in all of which alterations of the fundus of the eye were demonstrated, and the same fact was noted in several puerperæ who were suffering from non-septic affections. Since that time, despite continued examinations, B. has failed to find similar conditions. He briefly described some cases, and illustrated the results of the ophthalmoscopic examinations by drawings made at the bedside.

The conclusions at which he has arrived on the strength of his material are the following:

1. The failure to obtain a positive result does not invalidate the diagnosis of sepsis, nor does it allow of a more favorable prognosis.

2. The non-septic affections of the fundus of the eye, which occasionally can be demonstrated in puerperæ, are of the greater importance for the diagnosis the more the actual morbid process is hidden by puerperal symptoms. (In this respect, two cases previously reported by the speaker are of particular interest. In one, the disease was miliary tuberculosis; in the other, a grave

nephritis. In the latter, neuro-retinitis albuminurica; in the former, choroidal tubercles were demonstrated.)

3. So-called hemorrhagic retinitis, or the simple hemorrhages with or without white centre, occur in sepsis as well as in other diseases. (B. has reported on four cases belonging under this head: anemic retinal hemorrhages after difficult detachment of the placenta, retinal apoplexies in a puerpera with cervical carcinoma and in a phthisical patient, finally a hemorrhage into the choroid during typhoid fever in the puerperium.) When sepsis has been positively demonstrated, these hemorrhages are generally of unfavorable prognostic importance.

4. Retinitis septica, consisting of flocculi and so-called flakes of Roth, is pathognomonic of sepsis only after all other diseases which could present similar appearances, such as nephritis, diabetes, and leukemia, have been excluded. It has never been observed with typhoid fever. It occurs both in the phlebitic and in the lymphangitic forms of puerperal fever, and prognostically is not absolutely unfavorable.

5. In ordinary panophthalmitis, there is always purulent choroiditis, but the latter does not invariably spring primarily from the choroid. We must distinguish:

a. Purulent choroiditis which produces first symptoms on the anterior pole of the eye, such as chemosis, keratitis, iritis, synechiæ of the iris, hypopyon, protrusion and impaired mobility of the globe. Secondly only is the process propagated to the retina. Whenever the affection is not the sequel of a trauma or an operation, of a perforating corneal ulcer, or a suppuration in the cranial cavity, it certainly indicates septic disease, and in many cases ulcerous endocarditis. (B. saw a case in which the process developed in a patient suffering from cervical carcinoma and bilateral salpingitis, occurring acutely after a simple exploration; the intermediate step was ulcerous endocarditis.)

b. Purulent retinitis which affects the choroid secondarily, and thus leads to panophthalmitis, or remains confined to the posterior pole of the eye. It begins with embolic inflammation of the retina (in one case perhaps embolism of the central artery; in the other, obstruction of one of its branches), leads to suppuration in it, and from there extends to the vitreous and the choroid. It always indicates sepsis, and, possibly without exception, ulcerous endocarditis.

OLSHAUSEN (Halle) holds that it is very important for us to advance to the point of applying ophthalmoscopic indications diagnostically. He has, in former times, often convinced himself of the frequency of retinal hemorrhages, especially with anemic patients, in the puerperium. Some of them are remarkably large, and are followed by defects in the field of vision and serious disturbances of sight.

FEHLING (Stuttgart) read a paper on

HABITUAL DEATH OF THE OVUM WHEN THE MOTHER IS AFFECTED
WITH DISEASE OF THE KIDNEY.

The most frequent and best known cause of the death of the ovum is syphilis of the parents. More rarely, it can be traced to uterine diseases, such as metritis and endometritis. Thus far it had not been known that kidney diseases of the mother may likewise be followed by intrauterine death and premature expulsion of the fetus, and even a repetition of this accident in different pregnancies. The speaker has observed several similar cases. The first case was that of a woman in whom, when near the thirtieth year of life, menstrual disturbances had appeared, especially retarded onset of the periods. Six times premature expulsion of the ovum, which had died *in utero*, occurred. Each time, in the fifth or sixth month of pregnancy, edema of the entire body took place; albumin could be demonstrated in the urine. Symptoms of the death of the ovum, such as cramps of the stomach and chills, having shown themselves, the birth did not occur until eight weeks later. All the placenta were remarkably small, atrophic; the decidua thickened. The family physician had formerly instituted an antisiphilitic treatment, but without avail. The second case was that of a primigravida. About the middle of the pregnancy symptoms occurred which pointed to the death of the ovum. The urine contained large quantities of albumin. This diminished under appropriate treatment. Still the child was expelled after a few weeks. It was mummified. The placenta presented the same appearances as in the preceding case. After labor, the albumin disappeared from the urine.

The patient in the third case had passed through two normal labors. During the third pregnancy Bright's disease was first discovered by the ophthalmoscope. Premature expulsion, in the fifth month, of a dead child free from signs of syphilis. In the succeeding year another pregnancy. During the latter, hemiplegia due to embolism of the arteria fossæ Sylvii. Again in the fifth month a putrid child was born. After that the albumin diminished. Both placenta were small and showed numerous white infarctions.

In the fourth case, abortion had suddenly occurred in the fifth month of the first pregnancy. During the second pregnancy, great edema of the lower extremities took place. The child was born dead. With renewed pregnancy symptoms of serious nephritis appeared. But slight improvement under appropriate treatment. The birth commenced with a profuse hemorrhage. The child was born dead. The patient did not react, remained unconscious, and died in an eclamptic attack. Here, too, the placenta showed the above-described alterations.

All these cases, therefore, have kidney disease in common. The disease had probably existed before the onset of the pregnancy, but had become worse subsequently. In January, 1885,

Winter had reported on premature detachment of the placenta in nephritis, before the Berlin Gynecological Society. The speaker has observed two similar cases. But he is no more able than Winter to give an explanation of it. As regards the premature death of the ovum in nephritis, it is undoubtedly the consequence of the placental disease. In all four cases observed by F. the placenta was smaller than it generally is at the corresponding period of pregnancy. There were present in it numerous nodules, white infarctions, partly wedge-shaped, partly roundish, which often contained vacuoles. According to Ackermann, the white infarctions consist of canalized fibrin, the increase of which causes atrophy of the villi, during which process periarteritis fibrosa multiplex occurs. As the villi perish, the child dies. The only remarkable circumstance remaining is the proportionately long retention of the placenta. The small-cell infiltration of the villi and of the vessels of the funis, which is characteristic of syphilis, was always absent; in fact, no sign of syphilis was ever found in the fetuses.

KUGELMANN (Hannover) read a paper on

A SIMPLE, SAFE METHOD FOR THE INTRAUTERINE TREATMENT
OF CHRONIC CATARRH OF THE UTERUS.

The speaker had convinced himself on his own person that he could rapidly cure coryza by the introduction of iodoform into the nose, and thus prevent a laryngeal catarrh which usually succeeded it. This good effect on the nasal mucous membrane induced him to try iodoform also in the catarrh of the uterine mucosa. He injects the agent by filling with iodoform a slightly-curved metal catheter with solid beak, inserting it into the uterus—an easy matter—attaching to the proximal extremity a rubber hand-ball provided with a short piece of tubing, and insufflating the powder by compressing the ball. After this has been done, it is advisable to exert pressure on the uterus from the symphysis, in order to expel whatever air has entered. This painless and safe manipulation is repeated twice a week. The results obtained by K. were very good. The secretion always diminished or disappeared quite rapidly.

LOEWENTHAL (Lausanne) has for years employed iodoform in catarrhs of the uterine mucosa. But he makes use of very small pledgets of cotton dusted with iodoform to which a thread is fastened; these he introduces into the uterus with the sound. They do not cause any inconvenience.

KUESTNER (Jena), in connection with Kugelman's paper, showed uterine dilators bearing a great resemblance to those of Hegar, but while the latter are made of rubber, the former are of copper. This material offers a double advantage. In the first place, they can be more easily rendered aseptic (after the method described by Kuemmel at the Surgical Congress), and secondly, the thinner numbers (up to 6 or 7) can be better adapted to the direction of the uterine canal, as they are flexible. K. has had

two sets of these dilators made, with different curvatures, one intended for the normal, the other for the retroflexed uterus. He stated that he employs them only preliminarily to minor manipulations. If he wishes to obtain greater dilatation, he always uses laminaria.

BUNGE (Berlin) exhibited

A CARRIER FOR CONVEYING A FILLET INTO THE GROIN IN EXTRACTIONS BY THE BREECH.

The instrument shown is a modification of the one formerly described by the same author (*Centralbl. f. Gyn.*, 1881, No. 8). In the old model, it was difficult to remove the fillet from its metal sheath. This defect has been remedied by leaving a broad open space along the entire length of the latter. By virtue of this construction, only moderate traction is required to free the fillet from the carrier after it has been brought into the groin. (A fuller description of the instrument will appear in a subsequent number of the *Centralblatt*.)

BAYER (Strassburg) read a paper on

THE INDUCTION OF PREMATURE LABOR BY THE CONSTANT CURRENT.

The author stated that he had published a paper on the same subject in Vol. XI. of the *Zeitschr. f. Geb. u. Gyn.* Since that time, he has had opportunities of testing the efficacy of the constant current in four additional cases.

1. Vpara, aged 28. In the four preceding deliveries, version was performed. Children dead. At the end of the ninth lunar month, application of the constant current. After the first application, pains commenced; after the sixth, there was complete dilatation of the os uteri. The child lived ten days.

2. Here pains likewise ensued after the application of the constant current. The child, which was born alive, died six hours post partum.

3. After seven electrizations, the os was fully dilated. Pains, however, ensued only during the continuance of the current, and ceased when it was interrupted. Patient discharged by request. After three and a half weeks, spontaneous premature birth of a living child.

4. After nine applications of the constant current, a grayish-green ulceration of the cervix appeared. When the ulceration had healed, electricity was again employed, but without producing regular pains. Since it had been observed that frictions of the uterus always caused contractions, they were employed every five minutes, but the effect desired was not obtained. The cervix again elongated, the internal os closed. Renewed application of the constant current again caused dilatation of the os, and thus allowed delivery by operative interference.

It was therefore proved in these four cases that the constant current excited pains, dilated the os, and overcame strictures of the

cervix. But the speaker did not attempt to deny that the effect was not always uniform. The result will be most striking where the muscular structure of the uterus is well developed and the cervix not too rigid.

The mode of application has been altered by B. in so far that he opens and breaks the current at short intervals. To this end he raps on the abdominal integument with the anode—a procedure which seems to enhance the effect. He has given up the use of a double electrode to be applied to the cervix. The effect of the latter was very good, but its employment produced an eschar. In cases which require the long-continued application of the constant current, B. advises a specular examination from time to time in order to discover any incipient caustic effect, and in that event to discontinue the procedure.

HOMBURGER (Karlsruhe) had once employed the constant current in a IIIpara with a view to increase very weak activity of the uterus, but without result. But in two cases of uterine fibromas, the procedure had yielded favorable results. In one of these cases, treatment with ergotin had been ineffectual. The constant current caused decided diminution of the tumor and of the uterus; the menorrhagias became less. Of late, after the electrization had been discontinued for some time, they have again become more profuse. In the second case, likewise, a large tumor was gradually diminished. The uterus, too, which was much increased in size grew smaller, and resumed its anteflexed position.

SCHATZ (Rostock) has for the last eighteen months devoted special attention to the agents influencing uterine activity. He has used electricity in but few cases, and, therefore, is unable at present to express an opinion as to its value for the induction of premature labor. He thinks it very probable that the uterus, like the heart, is provided with nerves not only for the excitation, but also for the retardation of contractions—a circumstance which deserves careful consideration. Moreover, he called attention to the fact that toward the end of pregnancy contractions occur periodically. Should any of the various agents for the induction of premature labor be employed at one of these periods, it would act more surely and rapidly than at any other time.

MUELLER (Berne) has often had opportunities to induce premature labor on the obstetrical material at his disposal. He has frequently changed the method, and has also experimented with the constant current. In one case the effect was brilliant; in the succeeding five cases, however, it was not satisfactory. No direct effect ensued. After the constant current had been employed for some length of time, other means had to be resorted to. There was not even any preparatory effect. The oxytocic agents which were subsequently employed did not act otherwise than they did when the constant current had not been used before. Although the current usually produced dilatation of the cervix, it did no more. The labor did not progress, despite continued and intensified application of the current.

BAYER (Strassburg) corroborated, with reference to the case mentioned by Homburger, the statement that the constant current was ineffectual as a rule even during parturition. Only when there are cramp-like pains, or when a stricture of the cervix re-

tarded the progress of the labor, could it be expected to prove useful. B. inquired of Mueller whether the muscular structure of the uterus had been defective in the cases in which the constant current had given no results, and was answered in the negative. Perhaps, too, the method of application may have been the cause of the failure. B. has obtained especially favorable results since he opens and closes the circuit rapidly in the above-mentioned manner.

LOEWENTHAL (Lausanne) read a paper on

THE THERAPEUTICAL EMPLOYMENT OF ELECTRICITY IN MINOR
GYNECOLOGY.

In a series of cases of chronic metritis, L. has first employed the faradic and then the mixed current. The effect, especially of the latter, was rapid and lasting. Uteri whose cavity measured thirteen centimetres in length diminished to seven or eight centimetres. At the same time the health of the patient improved visibly. It is worthy of mention that the internal os opened almost invariably; contractions, however, were not observed. Other favorable results were obtained by L. in genital neuroses, for instance, in a case of grave hysteria in the climacteric age. All the symptoms were made to disappear in the period from February till April. Another case was one of intractable anorexia. The patient vomited nearly everything she ate. The affection was of six years' standing. Nevertheless the constant current caused the vomiting to disappear. To be sure, at first repeated slight relapses occurred. But eventually the cure was complete.

As to the mode of application, L. always introduces the cathode into the uterus, while he places the anode, consisting of a large cushion, on the abdomen. It is advisable to commence with weak currents, to increase them gradually, and then reduce them to zero by degrees. In this way the application of the current is painless to the patient; the effect, however, is more powerful and lasting than when the current is broken suddenly. We must avoid bringing the electrode to the anterior fornix of the vagina where it causes intense pain. The sitting should last from five to ten minutes, but by no means be prolonged beyond fifteen minutes. The currents employed should be very strong. They are very well borne when used in the above manner. L. has had no result from the constant current; but, as stated above, very good ones with the mixed current.

Experiments made to act on displacements of the uterus by electricity, or to cure them, resulted negatively. Only the concomitant nervous symptoms were improved. For the present, therefore, L. believes the mixed current indicated only in chronic metritis and genital neuroses.

MUELLER (Berne) read a paper on

THE PROGNOSIS OF LABOR IN CONTRACTED PÉLVIS.

In order to form an opinion of the prognosis of labor in a con-

tracted pelvis, it is necessary, not only to have a clear idea of the quality of the pelvis itself, especially the size of its diameters, but also to determine approximately the size, shape, and consistence of the infantile head. Even the former is connected with difficulties. Although the conjugata vera can be measured pretty accurately, this is not possible with the transverse and oblique diameters. In these respects we must be content with an approximate estimation on palpating the pelvis. It is no less difficult to inform one's self about the child's head in the direction indicated. Various methods are given for estimating its size directly or indirectly. The results of all these methods, however, are inexact if not false.

M. has endeavored, therefore, to get information as to the prognosis of labor in contracted pelvis in another manner. He tests early in pregnancy the proportion of the fetal head to the maternal pelvis. In this procedure he first searches for the neck and the region of the occiput of the fetus by external palpation, which is easily done. Then he presses the head, put approximately in the median line, chiefly from the occiput in the direction of the pelvic axis into the pelvic canal. Then, for the purpose of fixation from without, he gives the head to an assistant, and personally ascertains from the vagina whether the head really descends, whether it passes the promontory, or whether only rotation occurs. Where serious obstacles are present, it is easy to prove that the head remains with the greatest periphery above the pelvis and even bulges out the region above the symphysis.

Such a determination of the relation of the head to the pelvis is of decided importance in settling the time for the induction of premature labor, especially where we are in doubt as to the stage of the pregnancy. In cases in which the induction of premature labor seems indicated, M. has the above-described attempts at engagement repeated every eight or ten days, and induces premature labor when the head can just barely be pressed into the pelvis.

SCHATZ (Rostock) would call M.'s procedure the relative measurement of the pelvis. He has been teaching it at his clinic for about eight years. As a rule, he proceeds to the induction of premature labor only when the head can be pressed into the pelvis no farther than to overtop the symphysis by rather more than one centimetre. According to his experience, at this time the power of configuration of the head on the one hand, and the parturient forces on the other, suffice to make the head pass the pelvic strait without material difficulty.

OLSHAUSEN (Halle) inquired whether the force exerted during the pressure must be very great, and how long it should be continued; also, whether rigid abdominal walls were not an obstacle.

FEHLING (Stuttgart): Does not the lower uterine segment act as an obstacle to the descent of the head?

MUELLER (Berne).—The duration of the pressure should be about one to one and a half minutes. The force need not be very great.

The resistance differs much in individuals. In many cases anesthesia is necessary. The procedure is absolutely devoid of danger. As to the appropriate time for the induction of premature labor, M. does not believe that the latter would progress easily when the head can be pressed no farther into the pelvis than to project one centimetre above the symphysis.

To this SCHATZ replied that, if we proceed earlier, premature labor will often be induced too soon. The lower uterine segment offers no obstacle.

BATTLEHNER (Karlsruhe) read a paper on

THE TOTAL EXTIRPATION OF THE UTERUS THROUGH THE VAGINA.

The author first gave a brief historical review of total extirpation of the uterus, and then proceeded to speak of his experience in regard to the operation. He has operated on nine cases. One patient died of collapse in consequence of grave anemia. In four cases a relapse occurred after six months. Up to this time the patients had remained free from symptoms. In these latter cases B. was unable to confirm Schroeder's observation, that the patients suffered less from sloughing, hemorrhage, or other accidents than if they had not been operated upon. The remaining four cases are still free from relapse, one now for more than two years.

In his first cases, B. inserted a large rubber drainage tube, in the latter he employed large glass tubes. In one case the omentum had penetrated into the holes of the tube, the removal of which caused serious difficulty. Still the patient recovered. B. had always made the observation that the secretion from the wound does not pass through the drainage tube, but by the side of it. He has now entirely given up drainage. He only loosely tampons the vagina with sublimate gauze, and lays a large pad of cotton on the abdomen to which it is firmly pressed by turns of the bandage. He does not elevate the patient's shoulders as Schatz recommends.

SCHATZ (Rostock) stated that he likewise had given up drainage, and had also abandoned tamponing of the vagina. Prolapse of the intestines need not be feared. He, too, had abandoned the elevated position of the patient's shoulders which he had formerly employed.

FROMMEL (Munich) would in future close the abdominal cavity. If no infectious germs have entered it during the operation, the patient will recover, drainage or no drainage.

FEHLING (Stuttgart) calls to mind the excellent results obtained by Fritsch without closure of the peritoneum. F. himself has operated after Fritsch's method in three cases with favorable results. He believes that there is some advantage in leaving the abdominal cavity open, in so far as the secretion accumulating in the first few hours can escape.

KALTENBACH (Giessen) read a paper on

STENOSIS OF THE TUBES WITH CONSECUTIVE MUSCULAR HYPERTROPHY
OF THE WALL.

(Prof. Kaltenbach proposes to publish the paper in full in the *Centralblatt f. Gyn.*)

FROMMEL (Munich) has observed an hypertrophic tube similar to that described by K., with two malignant ovarian tumors, one of which was associated with pyo-salpinx of the opposite side. He did not find hemorrhages into the tissue of the tube in these cases. To K.'s question, what had been the state of the fimbriated extremity, he replied that in the case associated with pyo-salpinx of the opposite side it had been occluded, and open in the other case.

SCHATZ (Rostock) has operated on two similar cases. In one of these there was pyo-salpinx on one side and on the other adhesions which he regarded as the result of ruptures. Gonococci could not be demonstrated.

KALTENBACH (Giessen) does not believe that in the case described by him there had been an accumulation of fluid before the hypertrophy occurred. The greatly contracted canal and the much thickened wall were against this view. The epithelium was short, cylindrical, flattened.

M. B. FREUND (Breslau) spoke of a paper read shortly before in the dermatological section on the infectiousness of chronic gonorrhea. The demonstration of gonococci is very difficult in chronic cases. They are seated very deeply in the mucous membrane and come to the surface only when there is an inflammatory swelling of the mucous membrane excited by irritants and can then be demonstrated even in cases where the discharge is still slight. Accordingly there is nothing wonderful in the fact that no cocci could be found in the secretion taken from diseased tubes.

KALTENBACH (Giessen) stated that it was not alone the presence of gonococci which led to the formation of pus in the tube. Other excitants entering there might have the same effect. Should it happen that suppuration took place in the ligated portion despite an antiseptic ligature, it was the consequence of the presence of infectious germs in the tube. The importance of the germs might be very variable.

W. A. FREUND (Strassburg) accepts Kaltenbach's explanation of the thickening of the tube, according to which it is to be regarded as a hypertrophy of activity. In the Strassburg collection is a specimen, in one of the broad ligaments of which there is a multilocular ovarian cyst in the ala vespertilionis. Here we find a hypertrophy of the tube with stenosis of the uterine ostium, in the base of the other broad ligament there is an ovarian tumor and the hypertrophy of the tube is absent.

SCHATZ (Rostock) admits that in the case of hypertrophy of the muscle it may be due to increased activity. But he is of opinion that in spite of this condition a dilatation by accumulation of fluid may have taken place. In the case mentioned by himself, this condition is still found on one side, on the other it has disappeared, and S. suspects that the uterine end of the tube had been occluded at the beginning of the affection by the greatly swollen mucous membrane, and had again become patulous after the swelling had subsided.

BAYER (Strassburg) exhibited

SOME OBSTETRICAL INSTRUMENTS.

Their only purpose was to save the soft parts of the mother.

a. Modification of Tarnier's forceps (old model). The instrument has a very slight cephalic curve, the posterior ribs are well rounded and slightly bent inward.

b. Forceps with movable blades. When the soft parts are narrow and rigid, and the head oblique in the pelvis, the ordinary forceps frequently cause laceration of the vagina because the posterior rib of the blade, pointing backward, does not lie close to the head. In order to avoid this and make a close adaptation of the blade to the head possible, the blades are made to turn. The forceps are on this account liable to slip, and therefore they must be controlled during the extraction, and the handle firmly compressed. The extraction is often more laborious than with ordinary forceps, because when the latter produce a lesion of the vagina the tension is at the same time reduced. With these forceps B. has in many cases obtained very good results as regards keeping the soft parts intact.

c. Perforating instruments. A pair of small Naegele scissors, curved on the flat and sharpened only near the end. They make a comparatively small opening. Also a pair of bone forceps with narrow branches. B. no longer uses the cranioclast. He perforates, removes the bones of the head as far as necessary, and extracts by traction with the fingers or the bone forceps. The operation done in this manner is rather tedious; it may last two hours; but its results are very good as regards avoiding injuries to the cervix and wounds by splinters of bone.

ZWEIFEL (Erlangen) read a paper entitled

ARE THERE GERMS OF DECOMPOSITION IN THE HEALTHY LIVING ORGANISM?

The view is pretty prevalent that, should germs of decomposition exist in the healthy living animal body, this fact could not be brought into harmony with Lister's doctrine of antisepsis. Z. does not share this view. Although he has succeeded, by a series of experiments, in demonstrating the presence of micrococci in the living organism, he does not look upon antisepsis as altered thereby in its essential points.

The experiments of Tiegel, Billroth, Burton-Sanderson, Nencki, Giacosa, and Pasteur are well known. None of them succeeded, despite the greatest care and the employment of different methods, in preventing decomposition in portions of organs taken freshly from the body and at once withdrawn from the influence of the air. Z. himself first experimented with arterial blood. This, to his surprise, remained free from decomposition. But when he repeated Nencki's experiments with the heart, decomposition always occurred. The author then suspected that it was the oxygen contained in the blood which kept it from decomposition. He

therefore conducted the oxygen away from the blood; decomposition occurred. He introduced the heart into fresh oxygen; no decomposition ensued. He obtained the same result with peroxide of hydrogen in a twenty to ten per cent dilution—a proof that it was not possibly the drying effect of the oxygen which produced the result. Z. therefore thinks himself justified in considering oxygen the essential factor for the suppression of decomposition excited by certain species of cocci.

Different results were obtained, although with another arrangement of the experiments, by Meissner, Cheyne, and Hauser, assistants at the Pathological Institute in Erlangen. They sterilized glass cylinders, closed them with cotton, and introduced into them portions of organs. Two-thirds of the glasses remained free from decomposition. Z. repeated the experiments in the same manner, but always brought the glasses into a temperature of 33–40° C. Their contents regularly decomposed on the addition of water. It was thus ascertained that Hauser had not brought the temperature of the breeding oven as high as 33–40° C. When Z. did the same (temperature no higher than 32° C.), two-thirds of the glasses likewise remained clear in his experiments. But turbidity ensued when the glasses which had remained clear were subsequently brought for seventy-two hours into the breeding oven at a temperature of 38–40° C., and at the temperature of the body cultures of a certain species of cocci were obtained on agar-agar gelatin.

Finally F. experimented with firm pieces of tissue transferred while access of air was prevented. Here he likewise observed the regular development of gas, turbidity of the serum, and cultures of cocci on prepared gelatin.

He always found a certain species of micrococci which, when inoculated on sterilized meat, caused the development of carbonate of ammonia and carbonic acid.

Z. sums up the results of his experiments in this, that in this question we have to deal with the existence of only a certain germ. He names it, owing to its effect on albumin, the micrococcus albuminolytes. To it, as to the living cell, must be ascribed the quality of splitting albuminous substances into carbonic acid and ammonia. There would thus be demonstrated a process similar to that occurring during digestion, in which, according to Bientock, the peptonization of albuminous substances is effected by a micro-organism by the side of the chemical ferments.

In Z.'s opinion, the result of his experiments has no bearing on Lister's antiseptics, which is absolutely necessary for the purpose of keeping aloof other specifically pathogenic germs.

In reference to the details, Z. promises a subsequent full publication.

GENZMER (Strassburg) believes that the seeming contradiction between the existence of living microbes in the healthy living organism and the great success of Lister's antiseptics or its theoretical basis can be easily dispelled. *A priori*, it may be admitted

that the influence of the mycotic invasion is regulated and determined by the relation of the life-energy and power of reproduction of the micro-organisms to the resistant power of the living cell or the entire living organism. Accordingly, this relation can be altered to the disadvantage of the organism: 1, by heightening the living and reproductive powers of the microbes, and, 2, by reducing the resistant power of the organism. A proof of this is furnished, on the one hand, by the dangers consequent on retained wound secretions under defective physical antiseptics which, when the conditions are favorable, form actual breeding-places for the micro-organisms; furthermore, by the dangers arising from every septic infection to the diabetic, whose organism is saturated with sugar solution, a good nutrient fluid. On the other hand, all conditions in which the life-energy of the organism is reduced show a great tendency to septic propagation. Pirogoff has called attention to the fact that wounded persons who have lost much blood, or have suffered a severe nervous shock, are particularly subject to the dangers of sepsis.

In view of all this, it is easily understood that, while the victorious mycotic vegetation in the living organism was justly regarded by Lister as the cause of sepsis, and to-day is still so considered, the living organism is nevertheless able to harbor in the blood and overcome micro-organisms, without this struggle manifesting itself symptomatically as disease (fever, etc.). It is the displacement of the relative powers of organism and microbes in favor of the latter, which causes the microbes to become deleterious to the organism. This alone we can and must attack, aside from general invigoration of the organism, on the one hand by physical antiseptics (drainage, arrest of hemorrhage, etc.); and on the other hand by chemical means. The latter should not set itself the task to actually kill all the micro-organisms, because this would seriously injure or even annihilate the resistant power of the organism; it should rather restrict itself to impairing by mild protoplasm poisons the conditions of life for the micro-organisms, and thus to restore the disturbed relation between the resistant power of the body and the life-energy of the mycotic invasion.

The next meeting will take place in Berlin.

TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF BERLIN.

Meeting, October 23d, 1885.

President, DR. SCHROEDER; Secretary, DR. A. MARTIN.

(Translated from the Centralbl. für Gyn.)

A DRAINAGE TUBE PASSED PER RECTUM.

DR. J. VEIT exhibited a drainage tube, the length and thickness of the little finger, which had been left in the abdominal cavity after total extirpation of the uterus from the vagina, and now, four and a half months after the operation, passed per rectum. In con-

nection with this case, he referred to a similar one, in which the drainage tube perforated through the bladder.

He also presented

A CORPUS UTERI EXTIRPATED SUPRA-VAGINALLY BY LAPAROTOMY.

It was from a woman, 55 years old, a multipara. It contained numerous interstitial and subperitoneal myomata, and a carcinoma which had arisen on the mucosa of the body, and secondarily involved one of the myomata. The carcinoma had undoubtedly arisen in the manner stated, and not by direct degeneration of the myoma; for in this one myoma the adenomatous character is clearly maintained, while the other myomata show no sign of disease.

DR. M. HOFMEIER exhibited

TWO TUBAL TUMORS (HYDRO-SALPINX),

larger than an apple, removed by himself from a young woman, married five years but sterile, who had become unable to work in consequence of increasing dysmenorrhea. The tumors had been thought to be ovarian, owing to their mobility, consistence, and intimate connection with the ovaries, and oöphorectomy had been intended.

He also presented

FOUR UTERI REMOVED THROUGH THE VAGINA,

one of which had been removed by Schroeder, the others by himself. Three of the specimens were marked examples of carcinoma of the internal cervical mucosa; the fourth was of interest in that the patient had undergone, one year before, vaginal amputation for an incipient carcinomatous ulcer. At that time, minute examination of the specimen showed the co-existence of a cervical carcinoma extending farther upward which had now begun to recur. Therefore the total extirpation had been performed.

DR. SCHROEDER exhibited

A MYOMA WEIGHING THIRTY POUNDS,

which had sprung from the posterior wall of the uterus and developed subperitoneally. The vaginal cervix had disappeared; the fundus uteri was dragged up to the height of the umbilicus; the tumor extended downward almost as far as the anus. The bladder was connected with the uterus only by a narrow bridge. The inconveniences caused by the size of the tumor were excessive. At the operation, the appendages were first ligated on both sides, then the peritoneum was incised round about, and the tumor enucleated. The cervix was cut off immediately above the external os. The opening thus made in the vagina was stitched. The hemorrhage during the operation was considerable, the patient becoming almost pulseless. Subsequently, the hemorrhage from the large cavity whence the tumor had been enucleated ceased spon-

taneously. The intestines at once filled the space; the recovery was uninterrupted.

DR. DUEVELIUS read a paper entitled :

A CONTRIBUTION TO THE SUBJECT OF THE VAGINAL EXTIRPATION OF
THE UTERUS.

The paper was divided into two parts. In the *first*, the author discussed a modified method of the vaginal extirpation employed by himself. After Douglas' pouch has been opened, the broad ligaments tied in the usual manner, the bladder pushed up, and the body of the uterus flexed backward, he proposes to reach behind the latter and with the forefinger to push the vesico-uterine fold out of the peritoneal cavity, to split it, and fasten the peritoneum to the anterior vaginal wall. Then the upper portions of the broad ligaments are to be stitched laterally to the vaginal vault, in the following manner: Starting from the lateral vaginal vault, a needle is inserted, carried through a small distance below the broad ligament, and returned to the fornix. Then the ligature is tied. As a rule, only three such ligatures are required on each side. The uterus is now cut out between the ligaments which have been tied off on both sides. The author believes that this procedure, by fastening the stumps to the sides of the vaginal vault, guards against their recession into the abdominal cavity and thus against after-hemorrhages; the wound secretions, moreover, gravitate less toward the abdominal cavity than toward the vagina, and disinfection can be more thorough where necessary. The author illustrated his method on the Schultze-Winckel model.

In the *second* part, the author called upon the members of the Society to enter on the discussion of the question of the vaginal extirpation of the uterus as opposed to the supra-vaginal amputation of the cervix in certain forms of carcinoma of the vaginal portion. He referred in the first place to the investigations of C. Ruge and J. Veit, according to which some forms of carcinoma of this portion of the uterus have no tendency to spread directly to the body of the organ, but extend to the vagina and the surroundings. In view of these results, the speaker furthermore stated that, nevertheless, there had often come under his observation recurrences of the carcinoma which had sprung directly from the cicatrix, not only in cases operated on by Dr. A. Martin, all of which relapsed, but also in patients who had been treated by other specialists, by the high amputation. He therefore asked the question whether vaginal hysterectomy should not be performed in all cases of carcinomatous disease of a portion of the uterus, especially because of late the results of this operation have greatly improved. In corroboration of his opinion, he referred to Hofmeier's paper on the statistics of uterine cancer and its operative treatment. Of 105 amputations, 13 died, or 12.3%. The speaker compared these figures with the results of the vaginal extirpation of the uterus obtained by A. Martin (in the course of four years) and himself in eight cases, together

80 cases. Of these, 7 died or between 8 and 9%. The mortality percentage of the Breslau clinic is similar, viz.: 8.4.

With reference to relapses after the two operations, the author likewise pointed to Hofmeier's statistics. After supra-vaginal amputation, 32% remained healthy for two years.

DR. M. HOFMEIER remarked, in the first place, that he thought the question was not put correctly if it were asked which of the two operations is the more dangerous; it should rather be, Does partial extirpation of the uterus suffice or not? If not, there is no doubt that we shall have to resort to a different, and possibly more dangerous operation. The statistics Dr. Duevelius cited and utilized from his (Hofmeier's) earlier publication cannot be employed in this way, since they are based on very unequal figures (9 total extirpations and 52 partial operations). Of the former, only 3; of the latter, 15 had remained healthy after two, and in part even after five years. The speaker thought it was inadmissible to base reliable statistics on these figures. At all events, in the 15 cases mentioned, the partial operation had sufficed, as it had in the cases previously reported by Pawlik, from Braun's clinic. Since this fact demonstrates that in these cases the partial amputation had answered its purpose, the total extirpation does not seem to be indicated.

The law which is valid in every branch of surgery, that no organ or limb should be removed *in toto* when the purpose of the operation will be attained by the removal of a portion, is equally applicable here. He could not admit the objection, that the total operation should be preferred because it is less dangerous, in support of which his (H.'s) statistics had again been referred to, because Dr. Duevelius compared with each other the results obtained in the first years by the partial operation (112, with a mortality of 12.3%) and those of the last and best total extirpations (59, with a mortality of 8.4%). If Dr. Duevelius had utilized all the total extirpations from Martin's clinic, the latter number would be altogether different. At the meeting of the Obstetrical Society on May 24th, 1884, A. Martin himself reported that, of 31 total extirpations performed up to about the middle of the year 1882, he had lost altogether 11 (among which, indeed, were nine very difficult and not quite radical operations). H. was unable to compile a greater number of the operations performed in recent years at the Institution; but cited only his own, though smaller number of cases. Of 18 supra-vaginal operations, he did not lose any after the operation; of 13 total extirpations he lost 2. Inasmuch as he always operates under the same conditions and according to the same principles, he holds the total extirpation to be much more dangerous. Occasionally the choice between the different methods may be difficult; in doubtful cases, the radical operation may be preferred. Relapses in ordinary cases never occur as pronouncedly and rapidly as in pregnant and parturient women.

Dr. Hofmeier denied the point raised by Dr. Duevelius, viz., that the statistics of other operators likewise speak in favor of vaginal hysterectomy, and against supra-vaginal amputation, since the reports of their experience are insufficient.

DR. SCHROEDER remarked, with reference to the technical proposition made by the author of the paper, that his present method of operation does not differ materially. To be sure, he does not stitch the vagina to the stumps previous to the complete excision, and he

ties every open vessel in the stumps separately. He expressed himself decidedly against the recommendation of the author to prefer vaginal hysterectomy even in such cases as permit supra-vaginal amputation in healthy tissue. Cancroid of the cervix is a disease of the vaginal mucosa; it spreads only into the vagina, and thence into the pelvic connective tissue, but does not extend up the cervix. Hence the vagina should rather be extirpated than the uterus.

Dr. Schroeder corrected the historical statements of the author of the paper by the remark that the supra-vaginal operation is older than vaginal hysterectomy. Whether the one or the other is more dangerous cannot be decided from the material at hand. At any rate, he holds supra-vaginal excision to be entirely sufficient for cancroid of the cervix, and indicated for that reason; while he pointed out the necessity of total extirpation in carcinoma of the mucous membrane.

Dr. A. MARTIN declined to enter on the other questions at present. But he himself had in former times seen all his cases of supra-vaginal amputation relapse, so that, for the past few years, he had determined to perform immediate extirpation even in carcinoma of the cervix. In the course of the present year, influenced by the positive doctrines of Dr. Schroeder, he had once more, in the case of a pregnant woman with a pronouncedly cervical carcinoma, excised only the affected posterior lip, the cut being made through undoubtedly healthy tissue. The pregnancy continued uninterrupted, but relapse took place rapidly, and the disease was now inoperable.

Dr. SCHROEDER admitted that he had had a similar experience with pregnant women. For the rest, we must make a distinction between cases in which the relapses arise from morbid elements left behind and those in which they do not; these latter cases are irremediable. It is the universal experience, however, that a cervical carcinoma only rarely extends to the body of the uterus.

Dr. LOEHLEIN.—As regards the statements of the author of the paper in reference to the rather lukewarm reception accorded to total extirpation in foreign countries, we find indeed cause for reflection. Aside from the decided refusal Freund's operation met with at the time by French surgeons, if we bear in mind in particular what can be learned from the proceedings of English and American gynecological societies, we see that even now the operation—vaginal hysterectomy—is gaining ground there very slowly. The steps are looked upon as difficult and dangerous, and the result as rather unsatisfactory. That may be due, in the main, to the fact that they are still isolated and first operations of the kind which our English and American colleagues are reporting. We as Germans, however, who must be interested in spreading the operation, conceived and perfected in its technique by German surgeons, as much as possible in foreign parts, will accomplish it the more readily when we *define the indications more accurately*, and recommend the procedure less in cases in which a simpler method of operating will answer every surgical requirement.

Dr. HOFMEIER supplemented his remarks by recording in the minutes his compilation of the operations performed at the institute from October 1st, 1878, to October 1st, 1885.

There were performed for carcinoma: partial amputations, 118, with 10 deaths; and total extirpations, 48, with 12 deaths. As regards positive recovery, only those cases were considered which

were operated on at least two years before. There were performed until December 31st, 1883, altogether 83 supra-vaginal amputations; of these, 8 died; the result remained doubtful in 19; relapses within two years, 35; free from disease for two years or longer, 21. During the same period, there were performed for carcinoma 35 total extirpations; of these, 9 died; result unknown in 6; relapses within two years, 15; free from disease for two years or longer, 5. The results are not definitive only in so far as the investigations are being continued.

REVIEWS.

GYNÆKOLOGISCHE WANDTAFELN ZUM UNTERRICHT.—GYNECOLOGICAL CHARTS FOR PURPOSES OF INSTRUCTION. By DR. HEINRICH FRITSCH, Professor of Obstetrics and Gynecology at Breslau. Brunswick: Friedrich Wreden, 1885.

Every clinical teacher of gynecology has felt the need of charts whereby he may demonstrate to the eye of his students conditions which the unaided finger learns to appreciate but slowly. Those under review are the production of a gentleman well known through his numerous contributions to gynecological literature, and the many years he has devoted to clinical instruction have fully qualified him for the production of accurate outline diagrams of typical normal conditions, and of the variations from the normal imparted by disease. Professor Fritsch has, we think, succeeded fairly well in his object, and, even though the individual teacher may differ in certain respects from the opinions held by Fritsch and perpetuated in his charts, these will still serve the useful purpose of enabling the student to obtain an approximate idea of his teacher's views, as well as giving him a certain graphic standard with which to compare the information acquired by the finger.

These charts are accompanied by a separate text descriptive of each, and rendered into the German, French, and English languages. Of the accuracy of Fritsch's translations, sufficient the statement that, whilst the style, diction, and grammar are not worthy of high commendation, those unfamiliar with the German may gain a clear enough idea of the author's meaning from his excursions into foreign languages.

Charts I. and II. (Part I.) aim at settling the vexed question of the normal position of the uterus. Fritsch is one of the few gynecologists who have ceased to impress upon the uterus a fixed normal position. This organ being movable within bounds, and its position at any given time being dependent, in a measure, on the state of the organs to which it lies adjacent, he grants it a range of normal positions, and, in his diagrams, depicts the extremes of these positions, Chart I. representing the uterus when bladder and rectum are empty, and Chart II. when these organs are distended. In the first instance the uterus is shown as slightly ante-

flexed, its anterior surface nearly resting on the bladder, the cervix being at about the level of the sacro-coccygeal junction. This is the position which Fritsch has found to predominate in the large proportion of cases examined by him under the given conditions, and we believe that many gynecologists will herein differ with him on the ground that the uterus lies too horizontally, and, therefore, will give rise to symptoms from the side of the bladder, which fact at once makes this position pathological. It is certainly our experience that, whenever the anterior surface of the uterus could be plainly felt through the anterior cul-de-sac without depressing the fundus bi-manually, the patient has complained of symptoms which could be effectually relieved by any means whereby the uterus was elevated into a more vertical position. I am personally, therefore, inclined to consider this position an abnormal one. In the second instance it is shown how, through distention of the rectum and bladder, the uterus is lifted up, the peritoneum being partially stripped off the anterior face of the organ, and its axis becomes nearly coincident with that of the vagina.

Chart III. (Part I.) is intended to represent a pathological ante-flexion of the nulliparous organ. It is shown how, in this position of the uterus, abdominal pressure acts directly on the posterior surface; how the utero-sacral ligaments are tightened and made tense; how, as a result of narrow external os, the cervical canal becomes dilated through retained mucus; and finally how, as the result of posterior fixation, the uterus, being unable to move forward during defecation, the cervix is pressed upon and gradually assumes the mushroom shape. This is a great deal to represent in one chart, and yet these conditions largely suggest themselves.

Chart IV. (Part I.) shows us the highly hypertrophied uterus of a multipara in a state of retroflexion. The heavy corpus rests upon and narrows the lumen of the rectum, the posterior lip of the cervix is elongated, the anterior short, the vagina is sub-involuted, and its normal axis is nearly reversed.

Chart V. (Part I.) represents anteversion of the uterus. The uterus is pictured as very much enlarged, lying forward on the bladder, dividing this organ, indeed, into two cavities, and, rather unnecessarily we think, Fritsch has drawn some posterior adhesions which simply complicate the diagram. It would have been wiser and less confusing to the student to have represented an anteversion alone without introducing any remnants of antecedent peritonitis—a condition figured in other charts, and the result of which, by the way, is usually to cause posterior fixation of the corpus, instead of the cervix, as represented in this chart.

In Part II., consisting of five charts, Fritsch aims at representing the mode of origin of uterine prolapse and its accompanying phenomena.

Chart I. represents the puerperal uterus at about the fourth day post partum. The organ is sharply ante-flexed, the fundus reaching above the *conjugata vera*. A beginning cystocele is shown, and the first step towards prolapse of the uterus is depicted in that the heavy organ has sagged down and back towards the sacral excavation.

In chart II. the retroverted post-puerperal uterus is shown, together with rupture of the perineum, cystocele, and rectocele. The fundus is below the promontory of the sacrum, its axis is coin-

cident with that of the vagina, and it is readily apparent with what facility the uterus may now begin to prolapse.

In chart III., although the conditions are very much exaggerated, there is represented a condition which is variously described under the names *prolapsus sine descensu*, *hypertrophia colli*, *hypertrophia portiois vaginalis mediae*, or, better still, elongation of the infra-vaginal portion of the cervix. It is not a true prolapse, for the corpus remains stationary; the cervical tissues simply have stretched out, "as if," according to Emmet, "made of putty," and have become elongated. In this chart, the perineum is represented as lacking, and a marked cystocele is present.

In chart IV. we find the same elongation of the cervix, but the fundus, instead of remaining stationary, has sunk lower, the posterior vaginal wall has prolapsed with the rectum, forming a rectocele, and the cystocele is still larger than in the last chart. We have represented, in other words, a prolapse of the uterus with inversion of both vaginal walls.

In chart V. is represented total prolapse of the retroflexed uterus. We believe the conditions are here greatly exaggerated. The whole organ has separated itself from the rectum, this in turn sacculating nearly two inches above the uterus, and lying within an inch of the bladder. According to Fritsch, the rectum is so loosely connected with the uterus that in case of prolapse it usually does not participate, but remains above. In our experience, it is rare for the uterus to prolapse to the third degree without coincident rectocele, and, ordinarily, with cystocele as well. Furthermore, we cannot understand on what mechanical principle the bladder has assumed the shape represented. Altogether this chart is very unsatisfactory.

The charts in part III. are designed to illustrate the action of those pessaries which Fritsch has found most frequently useful. Chief and foremost he ranks the round elastic India-rubber ring, and figures this in position on chart 1. The effect of this ring on the uterus is, to quote from the text: 1. It fixes the uterus and prevents it from easily shifting its position. 2. It lifts the corpus and forces a fixed position on the uterus. If these are its effects, then, in our opinion, this rubber ring finds therein its condemnation, for any pessary which "fixes" the uterus, "forces a fixed position" on the uterus, cannot fail to do harm. A good pessary will never check the normal range of mobility which the uterus must execute, in order not to interfere with the functions of the neighboring organs; and, further, a good pessary will never force a position on the uterus, but will rather assist the uterus to remain in good position when once placed there. As for the value of these rubber rings in prolapsus, very marked according to Fritsch, we grant them none at all. In short, our objections to these rings are: 1. They very soon become foul, and we possess more effective substitutes which do not. 2. They distend the vagina, leading to loss of tone of this organ, and, as a result of this distensile action, larger and larger sizes must be used until the capacity of the vagina is reached, and then the woman's condition is far worse than it was before the ring was first resorted to. As for the chart, the uterus is crowded forward on the bladder to such a degree that we do not believe it would be many minutes before the patient would ask to be relieved of the ring.

Charts II. and III. will be considered together. They both represent the Hodge *in situ*, in the first instance rightly, and in

the second badly, applied. In chart II., the posterior bar of the pessary has sufficient curve to keep the posterior cul-de-sac upward and forward, and, in consequence, the uterus lies anteverted—too much so, in our opinion, for the comfort of the patient, but then Fritsch believes, as already stated, that the anterior normal limit of motion of the uterus is greater than we can grant. In chart III., on the other hand, the pessary is insufficiently curved, and, as a result, the corpus uteri has flexed over the posterior bar, and the anterior bar bulges into the *introitus vaginae* and becomes a source of discomfort to the patient.

Charts IV. and V., represent the action of two forms of pessary which Fritsch considers most useful in cases of retroflexion: the one Schultze's figure-of-eight, and the other Thomas' well-known bulb. With the former we have had no personal experience, and therefore refrain from criticism in the face of Fritsch's statement "that those who declare Schultze's pessary to be of little use, have not taken the pains to familiarize themselves with its efficient properties," and that "if all other pessaries cannot keep the uterus replaced" a sufficiently large Schultze will. There is one objection to it, however, which Fritsch partially grants, and this is its construction of soft rubber. Thomas' pessary is pronounced an excellent instrument, and herein we agree, although practically we have found the Mundé bulb more efficient, because of its greater breadth and consequent less liability of slipping out of the *ostium vaginae*. The action of these pessaries are well represented in the charts, although here again, according to our belief, the uterus lies too far forward.

The fourth and last part concerns parametric and perimetric exudations, Fritsch's main object being to enable the beginner to understand the difference between exudations into the cellular tissue, and into the peritoneum. He lays special stress on the fact that his horizontal sections are, of necessity, purely schematic, for, in order to bring out the broad general facts, he was obliged, in a measure, to sacrifice detail.

Chart I. is a horizontal section of the pelvis at a level with the centre of the symphysis and of the third sacral vertebra. Herein the ligaments of the uterus are represented, the position of the ureters and rectum noted, and the cellular tissue is colored red so that one may perceive at a glance the necessary boundaries of a cellulitis. For the sake of completeness, the round ligaments are also figured in this chart, although these lie in a higher plane.

In chart II. the effect of a small exudation in the left broad ligament is exemplified, the uterus having been pushed towards the right. In chart III. a further stage is indicated. Here the exudation, beginning in the right broad ligament, has invaded the cellular tissue in front and behind the uterus, and has extended also into the tissue lying between the peritoneum and the abdominal wall. In chart IV. are indicated, in a vertical section, the localities where extra-peritoneal exudations and abscesses are generally found, and it is evident how an abscess between the abdominal walls and the peritoneum may be incised without injury to this membrane. In chart V. an exudation into Douglas' fossa is shown—pelvic peritonitis—and its effect on the uterus is very well noted.

Such, briefly analyzed, are Fritsch's Charts. Notwithstanding certain defects and exaggerations, we believe they will prove to the teacher a means whereby he may make his meaning clear and

to the student an aid towards correct diagnosis of the conditions with which he will most frequently be brought in contact.

EGBERT H. GRANDIN.

BERICHTE UND ARBEITEN, ETC.—CONTRIBUTIONS AND RESEARCHES FROM THE OBSTETRICAL AND GYNÆCOLOGICAL CLINIC AT GIESSEN, 1881-1882. By F. AHLFELD, with Contributions by F. MARCHAND. Leipzig: Fr. Wilh. Grunow, 1883.

The custom of this indefatigable writer of reporting within a single volume the nature and amount of the clinical material which passes under his observation, together with critical commentaries, of greater or less length, on rare cases and methods of management, is one which might well be emulated by those of us in America, who, being in charge of obstetrical and gynæcological services, necessarily possess a vast material from which to deduce points of value to the less fortunate majority of medical men. As it is, largely as a result of the haste which is typical of life here, many a rare case goes to waste, and many an observation of value is never committed to paper. Even a casual glance suffices to prove the worth of the present volume, the material of which is drawn from a close study of three hundred and fifty-two obstetrical cases, and five hundred and ninety-three gynæcological. The mortality in the obstetrical clinic during the period considered was only four cases, and in two of these cases there was infection before labor. This is an excellent showing for a maternity clinic which is utilized, as all such should be, for purposes of instruction.

Of the special obstetrical topics treated of in this volume we would note: An article on the Diagnosis of Pregnancy—especially with reference to the value of Palpation in the determination of the Fetal Attitude. A contribution to the Physiology and Management of Normal Labor; a contribution to the Pathology of the Puerperium, in which are outlined Ahlfeld's views in regard to sepsis and its treatment—views to which we have, in connection with another volume by this author, referred at length. Articles by Professor Marchand, relating to certain congenital defects in the fetus, defect in ventricular septum, transposition of aorta and pulmonary artery without septum defect, etc.

The gynæcological clinic was rich in operative material. We instance only a laparotomy for removal of a sarcomatous tumor, laparotomy for cancer of uterine body, two vaginal hysterectomies for cancer; extirpation of a carcinoma clitoridis. In connection with the treatment of cancer of the uterus, we find that once the attempt was made to diminish the size of the uterus through ligature of its lateral arteries. The attempt failed, the patient dying of peritonitis. Ahlfeld expresses his belief in the justifiability of vaginal hysterectomy for carcinoma.

As a concise record of clinical observations emanating from skilful observers, this volume must commend itself to all.

EGBERT H. GRANDIN.

BERICHTE UND ARBEITEN AUS DER GEBURTHSHILFICH-GYNÆKOLOGISCHEN KLINIK ZU MARBURG.—REPORTS AND CONTRIBUTIONS FROM THE OBSTETRICAL AND GYNÆCOLOGICAL CLINIC AT MARBURG. By F. AHLFELD. Second Volume. Leipzig: Fr. Wilh. Grunow, 1885.

The contents of this volume consist in an analysis of the material admitted into the Marburg hospital from April, 1883, to De-

cember, 1884, followed by special contributions on "The Anatomy and Physiology of Pregnancy," "The Physiology and Management of Normal Labor," "The Pathology of Pregnancy and Labor," "The Pathology of the Puerperium," "The Pathology of the Ovum and the New-born," all from the pen of Ahlfeld, and two contributions by Schrader, the one on "The Dangers following too early resort to Veit's method of delivering the after-coming Head," the other on "The Pathology of Menstruation." It would carry us too far, and be hardly profitable, to give an outline sketch of each of the above contributions. We much prefer to devote our space to a statement of Ahlfeld's views in regard to the management of the third stage of labor, and to describe an experiment whereby he proves, as clearly as may be, the possibility of auto-infection.

The question of the proper management of the third stage of labor we believe to be well-nigh settled in the minds of the majority of obstetricians. Each one may differ in minor detail, but the broad rule is to wait for uterine contraction, and, on its occurrence, to resort to Credé's method of manual expression. Ahlfeld, on the contrary, is opposed to this method, his belief being that the mother's interests are best subserved when the expulsion of the placenta is left to the efforts of nature. In support of his views he quotes, in particular, the results obtained by Dohrn from an analysis of two thousand cases, one-half of which were subjected to manual expression, and the remaining half treated expectantly. Dohrn's conclusions, briefly stated, are: In one thousand cases where the expulsion of the placenta was left to nature, the results were far superior to those reached in an equal number of cases subjected to Credé's method. In the first instance there was less hemorrhage, and fewer cases of puerperal fever and of retained shreds of membranes than in the second. Particularly was a difference noted in those cases where manual expression was resorted to within five minutes from the birth of the fetus. Ahlfeld's experience places him in perfect accord with these conclusions. He lays special stress on the fact that, where the expectant plan is pursued, there is less liability to post-partum hemorrhage than after resort to Credé's method. The percentage of cases of post-partum hemorrhage reported from Winckel's clinic from 1876 to 1878 is as high as 11.9%, and that from Olshausen's clinic from 1879 to 1883 is 1.67%. Both of the gentlemen are advocates of manual expression. At Marburg, on the other hand, there was not a single case of post-partum hemorrhage in 385 labors. Wherefore Ahlfeld's belief that the expectant plan of dealing with the placenta is in every respect better for the patient, especially on the score of lessened loss of blood. The fallacy underlying Ahlfeld's argument is that he jumps at the conclusion that the cause of the large proportion of cases of post-partum hemorrhage, etc., occurring at Winckel's clinic was due solely to the method employed for the delivery of the placenta, and that his own immunity is due to the fact that he followed another method. Now, the causes of post-partum hemorrhage are as variable as is the amount of blood which may be lost in each individual case. *A priori*, we should expect less hemorrhage after the use of that method which best promotes firm uterine contraction, and this Credé's method aims at, and, in our experience, generally accomplishes without injury to the patient. We believe that where fault is found with this method it is due to the fact that efforts

at expression are made too early. A pause of variable duration is physiological after the completion of the second stage of labor. The uterus cannot be expected to recover its tone at once and contract efficiently. Efforts at expression, therefore, are contra-indicated until the uterus is felt to distinctly contract under the expectant hand, and, during the interval of waiting, an opportunity is given the placenta to loosen its connection with the uterus, so that, when the act of expression becomes indicated, the after-birth is more likely to be expelled intact, than if the uterus, through untimely efforts, be spurred into what, likely, enough, are but partial and insufficient contractions. However well Ahlfeld's expectant method may have answered for him, and in the face of Dohrn's positive assertions, we should fear to trust to a method in private practice which entails leaving within the uterus, for a period dependent on Nature's whims, that which, having subserved its purpose, has become a foreign body. Just so long as the placenta remains in the uterus, just so long should the physician remain by his patient; for there is no safety in an alternately dilating and contracting uterus. Let the placenta be carefully and judiciously expressed, and the uterus contracts firmly and efficiently. Then the physician may leave his patient with clear conscience, and, if the uterus relaxes and the patient bleeds, we do not think he can blame Credé's method, but rather must seek for a cause, mental or physical, which, in its effect on the uterus, is relaxing.

A second contribution, to which we would refer very briefly, is Ahlfeld's experimental attempt to prove the possibility of auto-infection as a cause of puerperal fever. He chose for this purpose fifteen patients who, he ascertained, had not been examined previous to admission into the hospital. These patients were allowed to pass through the course of labor without any interference whatsoever, no vaginal examination being made, no douche being given, the external genitals being simply washed before labor and after delivery with a solution of sublimate. In nine of these patients there occurred a rise of temperature above 38° C., beginning at the second or third day, and generally preceded by a marked chill. Whilst the cases are few in number, it cannot be denied that they speak strongly for auto-infection, since every possible precaution was taken to prevent infection from without. In Ahlfeld's opinion they settle forever the question as to the possibility of a fever developing during the puerperium solely dependent on auto-infection. To such cases we should prefer to apply the term putrid intoxication as opposed to true puerperal septicemia, where bacteria are the pathogenetic factors.

In conclusion, we would simply note that the various contributions to this volume were prepared with evident care, and will be found generally interesting.

EGBERT H. GRANDIN.

OBSTÉTRIQUE ET GYNÉCOLOGIE, RECHERCHES CLINIQUES ET EXPÉRIMENTALES.—CLINICAL AND EXPERIMENTAL RESEARCHES IN OBSTETRICS AND GYNECOLOGY. By PIERRE BUDIN, Adjunct Professor at the Faculté de Médecine, Paris, etc., etc. Paris: Octave Doin, 1886, pp. 722.

Dr. Budin has herein collected the numerous contributions to obstetrics and gynecology, which have made his name such a familiar one on this side of the Atlantic. The volume proves him an earnest and exact student in these specialties, a busy and zeal-

ous worker, and no words are needed from us in witness of the value of the contents, for every reader of current literature during the past ten years must needs be perfectly versed in Dr. Budin's contributions. Our task, therefore, is limited to a *résumé* of the prominent topics treated of in this volume. These include papers on: At what moment should the umbilical cord be preferably tied? Clinical and experimental study of the fetal head from an obstetrical standpoint. A study of the fetal heart-beat. A study of the hymen and the orifice of the vagina. Remarks on the physiological contraction of the levator ani in women. Remarks on diagnosis of, and labor in cases of retained dead fetus. Remarks on a catheter for use in washing out the uterus and other cavities. Description of the Budin and Pinard manikin. Cases: Of extreme distensibility of fetal membranes; sub-mucous fibroid of the uterus complicating pregnancy and labor; persistence of fetal heart-beat after destruction of the medulla; cancer of the cervix delaying labor for days (followed by forceps delivery of a living fetus), etc., etc.

The above brief and incomplete synopsis of the contents of the volume can serve but to call attention to the variety of topics awaiting those who are sufficiently familiar with the French to be able to follow the accomplished author through his clinical and experimental studies. We are amply satisfied that the verdict will be in their favor.

EGBERT H. GRANDIN.

A SYSTEM OF OBSTETRIC MEDICINE AND SURGERY, THEORETICAL AND PRACTICAL. For the Student and Practitioner. By ROBERT BARNES, M.D., Obstetric Physician to St. George's Hospital, etc., and FANCOURT BARNES, M.D., Physician to the Royal Maternity, Charity, and to the British Lying-in Hospitals, etc. Two hundred and thirty-one woodcuts. Philadelphia: Lea Brothers & Co., 1885, pp. 884.

The need of a new treatise on obstetrics is scarcely, at first glance, apparent. Lusk's excellent work, in our own country, and Playfair's, in England, ought to supply the wants of the student and practitioner to such an extent as to leave no void to be filled. We believe, nevertheless, that this system will be eagerly sought for, not only on account of its intrinsic merit, but also because the reputation which the elder Barnes, in particular, has secured, carries with it the conviction that any book emanating, in part, from him is necessarily sound in teaching and conservative in practice. It is, indeed, eminently fitting that a man who has done so much towards systematizing the obstetric art, in particular its operative side, who for so many years has been widely known as a capable teacher and trusted accoucheur, should embody within a single treatise the system which he has taught and in practice tested, and which is the outcome of a lifetime of earnest labor, careful observation, and deep study. This system, therefore, has a *raison d'être*, and that it might be in all respects thorough and accurate, as well as comprehensive, the father has associated with himself in its production the son and pupil, whose name is also favorably known on this side of the Atlantic. From such a conjunction a truly classical treatise might reasonably be expected: but so anxious were the authors to fail in no respect that, with rare modesty, they assigned to other gentlemen the elaboration of certain departments of the science which they themselves felt incompetent to treat efficiently. The result of this arrangement is the produc-

tion of a work which rises above criticism, and which in no respect need yield the palm to any obstetrical treatise hitherto published.

Whilst the work is a joint production—we are told that “neither could have done it alone”—that portion which treats of the history of gestation, of puerperity, of the mechanism of labor, and of hemorrhage, is mainly contributed by Robert Barnes, whilst the prophylaxis of puerperal diseases, and the description of the operations is largely the production of Fancourt Barnes. The department of Embryology was entrusted to Professor Milnes Marshall, and that of Teratology to Mr. Noble Smith.

The completeness of this work forbids a close analytical review. We content ourselves with a brief specification of the contents of each chapter, dwelling more or less at length on the views expressed by the authors in regard to disputed points of theory or of practice.

In chapter I. is traced the development of the ova in the ovaries from their earliest recognizable state up to maturity. In regard to the *corpus luteum*, we notice the statement “that there is no infallible sign or character by which the *corpus luteum* of pregnancy can be distinguished from that of the non-fertilized ovum. . . . The terms *true* and *false*, as applied to the two kinds of *corpora lutea*, appear, indeed, to be altogether erroneous, as the two structures are essentially similar, and, in many cases, undistinguishable from one another.” It may be taken, therefore, as definitively settled that the *corpus luteum* is no evidence that pregnancy has occurred, and the old, yet occasionally resuscitated doctrine to the contrary effect should now be consigned to oblivion.

In chapter II. we find a sufficiently concise description of the anatomy of the female generative organs, and a statement of the menstrual process and its attendant phenomena. Chapters III., IV., and V., are devoted to the changes wrought in the ovum by impregnation, to the development of the human embryo and fetus, the formation of the fetal membranes and their purposes, and to the physiology of the fetus. In chapter VI., the anatomy of the female pelvis is given in detail, including a study of the comparative anatomy of the pelvis, the physics of the abdomen and pelvis, and concluding with a description of the gross and minute anatomy of the breasts. We would note that on page 152, Fig. 61, the word *conjugate* should read *transverse*, and *vice versa*. The following five chapters concern gestation, normal and abnormal, the effect of the process on the maternal organism, the phenomena accompanying it, and the effect of supplementary disease of one or another kind of organ. In no work with which we are acquainted are these subjects treated so exhaustively. Witness the fact that nearly eighty pages are devoted to the important subject of the diseases of the gravida, which are subdivided into: 1. The pathological exaggerations of the physiological conditions of gestation. 2. Pathological processes continued from the pre-gravid state, or grafted upon the gravid state. In connection with these chapters there are one or two points we desire to notice. On page 244, in speaking of tubal gestation, the authors state that there are two theories to account for the fact that gestation occasionally takes place in the tube opposite to the ovary in which the *corpus luteum* is found—the one, the *extrauterine transmigration* of the ovum; the other, the *intrauterine transmigration*. We would suggest a third possibility, assumed by a number of writers and certainly as tenable as the two above mentioned—the twisting of the fimbriated

extremity of the tube, in which the ovum is found, across the abdominal cavity towards the ovary whence the ovule has emanated. On page 246, under the treatment of tubal gestation, we regret to find the subject of electricity dismissed in a line, and preference given to puncture of the cyst as the *simplest* method. Herein we cannot agree with the authors. The use of the galvanic or faradic current is certainly as simple as puncture, and, in the light of the many cases treated by electricity within the past few years, we believe the method to be safer than puncture, and, at the same time, just as effective, if not more so.

Chapters XII., XIII., and XIV. are devoted to the Subjects of Abortion, Diseases of the Embryo, and Diseases of the Placenta. We find nothing to take exception to beyond the recommendation, on page 363, to dilate the cervix with *sponge tents* in order to expedite delivery in case of hemorrhage following abortion. We believe this to be a risky practice, owing to the liability to sepsis which accompanies the use of the sponge tent. We should prefer rapid dilatation with steel dilators, or, in case of excessive rigidity of the cervix, would employ a tupelo tent—an agent not so likely to be followed by sepsis as is the sponge. We would banish the sponge tent altogether from the lying-in chamber.

In Chapter XV. is described the process of parturition—the causes which determine it, the physiological phenomena which accompany it, and the management of the third stage. On page 431 occurs the following statement: "It has been much disputed whether the perineum should be 'supported,' or left to take care of itself. We believe there is now a general consensus of opinion in favor of supporting the perineum." Herein we beg to differ from the authors in so far, at least, as concerns the weight of opinion in this country. Through the efforts of Goodell, and other clinical teachers, it is beginning to be recognized that the perineum does not require to be supported, but to be relaxed, and this relaxation is aided by retarding the birth of the head, or other presenting part, together with judicious manual stretching of the perineum. The method of "supporting" the perineum described in the present work is classic, and we ourselves were taught it, but after seeing a number of perineums tear notwithstanding such support, we have substituted relaxation of the perineum, and have since frequently delivered primiparæ without even a lesion of the fourchette. The method is simple enough, consisting in making traction on the perineum, by means of two fingers in the vagina, in a direction downward and backward, coincidently with each expulsive pain, the fingers of the other hand gently retarding the presenting part, and keeping it towards the pubes, until the perineal muscles have relaxed sufficiently to allow of manual extension of the head in the absence of a pain. We do not question, of course, but that the supporting method advocated by the authors of this work is successful in preventing laceration in their skilful hands; but we believe that this very teaching of support to the perineum is a cause of lacerations occurring in the practice of the vast majority of general practitioners.

On pages 437 to 442 are described the methods of delivering the placenta. The practice of the authors is to apply gentle pressure to the uterus for a few minutes after the birth of the child, avoiding kneading or rubbing to any great extent; then the cord is to be followed up the vagina, and "two fingers may be firmly pressed near the root of the cord into the body of the placenta, so as to

hook the placenta down towards the vulva. The pressure is steadily made backwards, following the curve of the sacrum. You thus get, by the combined use of the two hands, 'axis traction.' At the same time moderate traction is made on the cord, and the whole mass is made to slide down. By the consentaneous light traction on the cord, downward and backward pressure upon the placental mass, and steady pressure upon the fundus uteri by an assistant, the distributed force avoids undue force in any one direction, and the placenta, if detached, is removed in the easiest and safest manner." In case this plan fails, the authors advise recourse to expression after Credé's method. From the former method we are obliged to differ. We do not consider it a safe method to teach; we look upon it as dangerous in the hands of any but the expert. The safest method, and the one to which we would grant priority, is that to which the authors resort should their "axis traction" method fail. The natural means of delivery of the placenta, in case there are no adhesions, is by *vis a tergo*, never by *vis a fronte*. If we would imitate the natural method, therefore, we should resort to Credé's method, never to any form of traction whilst the placenta is still in the uterus. Where there are adhesions, or where, through irregular contractions of the uterus (so-called hour-glass contraction), the placenta cannot be delivered by the methods described, we are glad to find the authors strongly in favor of gentle manual removal, instead of leaving the expulsion of the placenta to the whims of nature. Such, also, is their practice in case of retained placenta or secundines after miscarriage. We are further pleased to find on page 438 the italicized statement—*not to give ergot during the placental stage*. "Ergot given at this time is likely to defeat the very object in view. It is likely to excite irregular spasmodic or tetanoid contractions, which will lock up the placenta, and render all attempts at manual extraction abortive, even dangerous."

On page 444 we find the statement, "there is no good reason for applying a second ligature on the placental side," in speaking of tying the cord. We believe there are two good reasons—the one, there may be a second fetus within the uterus drawing its blood supply from the same placenta as the first fetus; and the other, the uterus can contract to better advantage, and therefore expel more quickly, a distended placenta than an empty one.

Chapter XVI. describes "The Puerperal Process, or the Natural History of Child-bed," and Chapter XVII., "The New-born Infant," the changes in its organism consequent on its transition from intra- to extrauterine life, and the care demanded by it. Beyond the statement that these chapters are very complete, no special comment is called for.

Chapter XVIII. contains a very satisfactory and elaborate description of the "Factors of Labor." The subject matter comprises the Diagnosis of Presentations and Positions; The Structure and Component Parts of the Fetal Head; the Diameters of the Pelvis; the Mechanism of Labor in case of the Various Presentations; Spontaneous Version, and Spontaneous Expulsion. Altogether nearly seventy pages are included within this chapter. The sole imperfection, but one common to all obstetric treatises, is the short space devoted to the diagnosis of the positions by external palpation.

Chapters XIX. and XX. consider "The Accidents Occurring during, and Following upon Labor." Of the hemorrhages, that

which results from abnormal implantation of the placenta claims the most space. It is to Robert Barnes that we are indebted for our modern views on this subject. As long ago as 1847, he first published what he terms his "new theory of placenta previa." Previous to this date the teaching had been that the hemorrhage was inevitable; that whilst expansion of the cervix was a necessary condition of labor, this very expansion was also a necessary cause of further hemorrhage. Now, Robert Barnes, through his publications, proved, amongst other things, that expansion of the cervix, instead of being the cause of renewed hemorrhage, was the great desideratum towards checking the hemorrhage; that "when the dilatation of the cervix has reached the stage at which the head can pass, and when all that part of the placenta which had been adherent within the lower zone is detached, . . . a stage is reached when the labor is freed from all previal placental complication; the lateral or equatorial portion of the placenta retains its connection, supporting the child's life" (page 570). It is on this belief that Barnes' practice hinges. Not believing in an inevitable hemorrhage "he is opposed to the *accouchement forcé*." His aim is to obtain uterine contraction, whereby the hemorrhage is arrested through constriction of the blood-vessels, and the formation of thrombi. The best method to evoke contraction is to puncture the membranes—"it is the most generally efficacious remedy, and it can always be applied." At the same time "apply a firm binder over the uterus" as a further promoter of contraction. In case the hemorrhage continue, and the cervix do not dilate, the "plug may be tried." The tampon, however, is not to be left *in situ* long. If it do not shortly seem effective, take means to effect dilatation of the cervix, and, since this requires time, and the hemorrhage meanwhile continues, separate all the placenta which adheres within the lower zone by means of one or two fingers, and frequently the bleeding ceases, "the labor, freed from the placental complication, is resolved into natural labor," and the case may be left to nature. Suppose, however, that the hemorrhage do not cease; then resort to artificial dilatation of the cervix by means of Barnes' hydrostatic dilators, and, this accomplished, if nature is still unable to complete the delivery, interference is at last indicated either by forceps or by version. Such, in outline, is Robert Barnes' method of treating placenta previa. We sketch it here because we believe that, in face of recent contributions to the literature of placenta previa, this method is fairly open to the charge of not being active enough. We would not be understood as advocating the *accouchement forcé*; we have in mind simply the excellent results from resort to early combined turning, with which the readers of this JOURNAL are familiar, through the valuable paper of Lomer's which appeared in the December, 1884, number. Robert Barnes gives us no statistical data whereby to judge of the worth of his method, and which we might oppose to those which Lomer incorporates in his paper. It is surely, however, a proper question, if one or two fingers may be passed "as far as they will go through the os uteri, the hand being passed into the vagina if necessary" (page 385) in order to detach the placenta from the lower zone, and yet the hemorrhage do not always cease, why not perform the same maneuver in order to effect combined turning, which object attained, the hemorrhage is arrested? The mortality of cases treated by combined version, as shown by Lomer, may be as low as 4.5%; the mortality treated by other methods is, on

an average, 25%. However great, therefore, the influence of Barnes' valuable papers and teaching in the past, we believe that in the future the treatment of placenta previa must differ from the method he recommends, in so far as earlier interference is concerned, unless he can give us better results than those so lately obtained in Germany through early recourse to Braxton Hicks' method of combined version.

Although we should be pleased to dwell at some length on the other topics embraced in these two chapters, as well as in chapters XXI. and XXII., wherein are considered, respectively, "Sudden Death in Gestation, Labor, and Puerpery," and the "Accidents of Lactation," our space forbids, and we pass at once to chapter XXIII., devoted to "The Puerperal Fevers." The authors' discussion of this all-important subject is characterized by broadness of mind, and uniform fairness towards the adherents of special doctrines. They do not hope to solve the cause. They leave this question where, notwithstanding the recent exhaustive debates, it apparently, for the present at least, must remain, an open one. Their own belief is well expressed by the chapter-heading, that is to say, "As fevers of various kinds may assail non-puerperal persons, so they may assail puerperæ. We must, therefore, abandon the vain attempt to find one definite puerperal fever, and we must recognize the clinical truth that there are puerperal fevers" (page 727). The clinical division of these fevers which the authors favor is: A. Autogenetic: 1. Simple excretory puerperal fever, the result of the arrest of excretion of waste stuff of involution—the only true puerperal fever. 2. The fever resulting from absorption of foul stuff from the parturient canal—autoseptic fever. 3. Septicemic puerperal fever, revealed under the forms of metritis, peritonitis, pelvic cellulitis, thrombosis, and general toxemia. B. Heterogenetic—due to reception of a poison from without, the cadaveric, the septic matter from other puerperæ, the zymotics. These different fevers cannot be differentiated through pathological anatomy. "This constancy of pathological effects illustrates the proposition that all the fevers acquire some common character from the underlying puerperal constitution" (page 728). As for the prevalent doctrine that puerperal fever is identical with surgical fever, the remarks of the authors are so worthy of note that we introduce them here: "That there are many points of analogy is undoubted; but there are also points of difference which forbid us to accept the doctrine of identity. The subject of an amputation, and a woman after labor, both present wounds. Both may be considered as susceptible to invasion by poisons. In both the poison may effect a lodgment in the wounds. But it is easy to carry the comparison too far. Amputation is presumably performed on account of disease. The condition of the patient is pathological to start with. There is no special provision in the system made for the express purpose of healing the wound. The wounds in the puerpera are physiological. There is a distinct provision *ad hoc* for restoration to the ordinary state. It is in this provision, marked by extraordinary activity of absorption and excretion, that lies the peculiarity of the puerperal patient. This condition has no parallel in the ordinary surgical patient. . . . If we are asked, What is puerperal fever? may it not be asked in return, What is surgical fever? Is surgical fever one uniform, definite, pathological entity? Would it not be a truer statement to say that, just as puerperal fever can only be

accepted as a general term to signify fever in a puerpera, so is surgical fever a general term to signify fever in a surgical patient? In neither is the fever one constant thing. There are varieties of surgical fevers as there are varieties of puerperal fevers. If it be contended that by surgical fever is meant septicemia, and nothing else, this is simply begging the question: we must still ask, What is septicemia? And again, if surgeons are prepared to give a precise definition of septicemia in surgical patients, are they also prepared to show that a septicemia of the same character is produced in lying-in women? Septicemia is a compound term. There is the sepsis, the poison; there is the blood which receives the poison. Now, if it be possible to show that the sepsis in the two subjects is identical, it would still be necessary to show identity or near similarity in the recipient blood. The first term of the proposition is certainly not proved; the second is certainly not true. This theory, then, like that of the microbists, is too absolute and exclusive. It may account for a large number, perhaps the greater number, of cases in lying-in hospitals; but it does not account for cases beginning before there is a wound, nor for the propagation to non-puerperal women." This argument is to us cogent, and we believe it difficult to pick a flaw. The verdict is simply "not proven," and their belief is very evident from the prophylactic measures which the authors favor, and to which we would briefly refer. Whilst their practice is not so extreme as that advocated so eloquently by Thomas in his paper read before the New York Academy of Medicine, especially as applied to the puerpera of the better classes, it is certainly ample enough to fulfil the conditions which every conscientious accoucheur should aim at as the best prophylaxis against infection. Thorough cleanliness and firm uterine contraction stand in the front rank as prophylactic agents; in case of any rise in temperature, an intrauterine douche of carbolic, 1 to 50, or of corrosive sublimate, 1 to 2,000, is indicated; have an abundance of fresh air in the lying-in chamber; provide for drainage by antiseptic vaginal irrigation; supply the system with good food by the stomach. Through these means, the door is kept shut against the enemy; the enemy is prevented from forming and collecting; the enemy is ejected as fast as it effects an entry; and the patient is fortified against the attacks of the enemy. These are simple rules for prophylaxis, and surely ought to be sufficient, in private practice, to enable the puerpera to pass in safety through the period which is the necessary and natural follower of the physiological act of gestation.

The remaining pages of this system are devoted to the description of obstetric instruments, to dystocia and its causes, to obstetric operations, and to the induction of premature labor. These pages are complete, and would not be thus summarily dismissed had we not already far exceeded the limits of a review.

Many of the woodcuts are new, and the *errata* are remarkably few. One constantly recurring is the spelling of Cazeaux, "Caseaux," and in one or two instances Goodell is deprived of an *l*. Whilst here and there occur sentences a trifle redundant or involved, in general the style is flowing and pleasant.

To glance at the system in its *ensemble*: We believe that the library of no general practitioner is complete without it. We question if it be not too elaborate to prove useful to the student as a text-book. The work is really one for reference, and to subserve this purpose it has not its peer in the English language.

EGBERT H. GRANDIN.

ABSTRACTS.

1. E. Cohn: The Etiology of Puerperal Mastitis (*Ztschrift. f. Geb. und Gyn.*, XI., 2).—To add to our knowledge of the etiology of puerperal mastitis, C. carefully examined eight cases, especially in regard to the presence of micro-organisms, and relates in this paper the culture experiments he has made. In three cases of phlegmonous mastitis he found the *staphylococcus pyogenes aureus* of Rosenbach, in four cases of simple mastitis he found streptococci, and in one case he failed to find any organisms. From a study of these cases he has reached the following general conclusions: 1. There exists no such a condition as mastitis, the result purely of milk retention, in the absence of specific micro-organisms. 2. In addition to a phlegmonous form of puerperal mastitis, there occurs a parenchymatous, glandular form, which, both in its beginning or in its course, may be distinguished from the former, and severe forms of glandular mastitis may possibly ultimately lead to general mammary abscess.

E. H. G.

2. Sænger: A Further Contribution to the Subject of the Cesarean Section (*Archiv f. Gyn.*, XXVI., 2).—In this paper, S. reports another case of Cesarean section performed after his method, with the result of saving both the mother and the child, and in connection with the case he compares this conservative method of section, as he calls it, with the Porro operation. The conservative method secures a uterus in a condition similar to an uninjured organ, provides against both primary and secondary hemorrhage into the abdominal cavity, reduces the liability of peritonitis to a minimum, and, in the case here reported, the after-course was similar to a favorable puerperium. The statistics from this conservative method, so far reported, are ten cases with four deaths of the mother, nine children living, and one dead before operation. In none of the four cases which died, could the technique of the method be blamed for the result, for in not one did either hemorrhage or passage of the lochia into the abdominal cavity occur. Even in the case which died of septic peritonitis and partial gangrene of the uterus, the uterine incision was found closed. To compare now these results with those from the Porro operation: of the fourteen cases of this operation where the pedicle was treated intraperitoneally, only four were successful. The mortality from the entire number of Porro cases is 56.57%; or to compare the early results with the later, of the first ten cases, seven died (70%), of the last ten the same number, whence it is apparent that the results from the operation do not improve with increased experience. In connection with this subject, S. also discusses craniotomy, and is of the opinion that the conservative section should be substituted for it. Any operation intended to take the place of craniotomy, in case of a living fetus, must fulfil the following three conditions: Preservation of the mother, of the child, of the genital organs. And these three conditions the conservative Cesarean section can fulfil, through its early performance, through the fact that it is possible to keep at a distance every possible source of puerperal infection by means of recognized antiseptic precautions. The technique of

the conservative section is very simple, the operation is by no means a difficult one, and it is time every practitioner should inform himself as to the method of performance. The various steps are carefully gone over in this paper, and we reproduce them as follows: 1. Empty the bladder, shave the pubes, and carefully disinfect the abdomen, vagina, and external genitals. 2. Incision in the linea alba, about 16 cm. long. 3. Passage of three sutures through abdominal walls, for the purpose of quickly closing the cavity behind the uterus whilst it is everted. 4. Incision in the uterus either (a) in situ, or (b) after drawing it out through the abdominal incision. 5. Removal of the child (preferably head first). 7. Entire eversion of uterus, placing a large sponge under it, and drawing abdominal incision together under it by means of the sutures. 8. Surrounding the uterus with napkins, and manual compression of the cervix. 9. Placing the elastic ligature. 10. Waiting for the spontaneous separation of the placenta and its manual removal, and assuring one's self that the os internum is open. 11. Placing iodoform in uterus, and, if it seems necessary, washing out the cavity with carbolic or sublimate solution. 12. Placing the sutures. (a) Preparatory steps: stripping off the peritoneum to the extent of about 5 cm. each side. Resection of muscular tissue 2 cm. each side. (b) Deep sero-muscular, 8-10, silver sutures; superficial sero-serous, 20-25, silk sutures. 13. Removal of the provisional elastic ligature. Cleaning of the uterus. Iodoform along the suture line. Dropping into the abdominal cavity. 14. Suture of the abdominal wound, and preparation as after laparotomy. 15. After-treatment purely expectant in the absence of symptoms.

E. H. G.

3. Killian: The Anato y of Parovarian Cysts (*Archiv f. Gyn.*, XXVI., 3).—The results obtained from a careful microscopic study of five cases of cyst of the parovarium are the following: Adhesions to the parietal peritoneum were wanting in three of the cases, and present to a degree in two, and this is exceptional, for ordinarily cysts of this nature do not contract adhesions. Folds of the inner surface of the cyst were in all these cases present, but the folds could hardly be due to contraction of the smooth muscular fibres of the wall, for these fibres were but sparingly present. The tube in all the cases lay close to the cyst, and was slightly increased in length. In two of the cases, there existed dilatation of the tube. The uterine end of the ovary was removed to a degree from the cyst-wall, as was to be excepted, since, normally, the parovarium is situated nearer the end of the ovary furthest removed from the uterus. In three of the cases, the fimbriated extremity, and, in one case, the ovary was elongated. The ovaries were hypertrophied, the result of the chronic venous hyperemia caused by the pressure of the cyst. The epithelium lining the cysts was not ciliated as, in accordance with the accepted belief, it should have been. The accessory cysts which are occasionally found, K. believes to be retention cysts, and not cysts from other canals of the parovarium. Two of the five cases were papillary cysts, and one glandular. This last form is exceedingly rare. To reach the diagnosis of parovarian cyst, it is necessary, in the first place, to determine whether the cyst occupies the position in respect to the neighboring organs which the parovarium does, and, in the second place, whether in anatomical structure the cyst is like the organ. The first point is determined affirmatively if the tube and ovary

occupy the position in relation to the cyst which they normally do to the parovarium. As for the anatomical structure of the cyst, K. can state no particular in which it is characteristically distinctive. Ciliated epithelium, as we have seen, is rare. The chief point in diagnosis, therefore, is the ascertaining the position which the cyst occupies in relation to the tube and ovary.

E. H. G.

4. Holmes: Puerperal Mania (Reprint from *Canadian Practitioner*, October, 1885).—In general, this affection is stated to depend on heredity, moral influences, anemia, dystocia—predisposing causes; and on moral emotions, toxemia, albuminuria, exhaustion—exciting causes. H. finds another cause in laceration of the cervix, and reports in this paper twelve cases which are conclusive evidence in favor of this view. The explanation of the causal action of this lesion is the same which applies to the other causes above enumerated—reflex irritation of the sympathetic system. He, therefore, suggests the advisability of attaching a specialist as consulting surgeon to every asylum, that this lesion may be detected, and believes that thus many a woman would be restored to health who otherwise might spend her days in an asylum.

E. H. G.

NOTICE.

By an erroneous interpretation of the editorial in the last December number, the impression has been given that the publication of articles relating to the *Diseases of Children* has been discontinued. This is by no means the case. The *department* of diseases of children as a separate feature has merely been abandoned, and articles on that branch will appear in their regular order among those on obstetrical and gynecological subjects.

With the abolition of the separate department of pediatrics, the necessity of a sub-editor for that section disappeared. Henceforth, all communications relating to PEDIATRICS should be sent, like all other contributions to the JOURNAL, to the editor, No. 20 West 45th street, New York.

CORRECTION.

In the article by Dr. Lewis in the January number, page 35, line 11 from the top, read "the irregular action," instead of "their regular action."

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ORIGINAL COMMUNICATIONS.

THE MANAGEMENT OF PLACENTA PREVIA.

BY

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New York.

IN considering the subject of the management of placenta previa, my chief object shall be, to suggest a line of treatment which shall be applicable to a large proportion of cases, and on which we may rely as giving the best chance for the life of the mother and child, in their imminent peril.

To do this is no simple matter, because so many contingencies arise to divert our attention or undermine our faith, that each case may sometimes seem to call for a specific mode of treatment of its own. And yet, if we weigh carefully all the means at our command, and judiciously reserve only those which are useful, and discard those which are superfluous or hurtful, we may have more firm reliance on this or that particular method, which seems best to meet the indication.

If we can decide in what event we shall use injections or applications of styptics; under what circumstances we shall puncture the membranes—tampon the cervix, vagina, or both; turn the child and leave it to nature's efforts at expulsion; when

to perform *accouchement forcé*; separate the placenta, etc.—if we can lay down for ourselves pretty definite rules in regard to these various procedures, we are the better prepared to cope successfully with this dread antagonist.

My attempt shall be therefore, *not* to offer any new principle on which to apply our treatment, but simply to reduce the various methods to their proper classification; and, selecting those means which are reliable, to throw aside all those details which are useless, and hence dangerous. For in this unfortunate complication of pregnancy and parturition we must be *discreet*, energetic, firm, *decided*. We must accomplish something toward preventing or arresting hemorrhage. We have no time to waste in impotent experiment!

Our patient's condition is such that she cannot afford to lose blood while we try "simple means" which may be commended, because, failing to do good, "they do no harm!" *Here* the sin of *omission* is apt to be greater than the sin of *commission*!

The unavoidable nature of the hemorrhage demands of us that we be prepared to *act*. As the lower segment of the uterine globe distends, and its relations with the misplaced placenta are broken up by the combined forces of intrauterine pressure and uterine muscular contraction, bleeding from the uterine sinuses must ensue; and must increase so long as these utero-placental relations are broken up, and corresponding pressure is not made on the uterine vessels whose mouths are exposed.

All of our efforts must, then, be directed to the prevention of dangerous hemorrhage, at the same time that we permit the inevitable separation to take place.

To be clear in our appreciation of the subject of this treatment, let us consider first the varieties of implantation of the placenta which may be properly denominated placenta previa, and second, the *conditions* which present themselves in different cases.

The usual division into three varieties is all that is necessary, viz., placenta previa marginalis, where the placenta is attached down to the very margin of the internal os.

Placenta previa partialis, where it extends across a portion of the lower segment of the uterus in such a manner that, as dilatation takes place, a considerable portion of the opening os is occupied by clear membranes, while the rest is occluded by the partially separated placenta.

Placenta previa centralis or complete placenta previa, in which the placenta is so implanted that its attachments to the uterine surface surround the internal os, and, on dilatation, the placenta is torn loose over a wide extent and presents its roughened surface at every point within the os internum. Every degree of attachment may occur within these classes, but slight differences need not be considered.

Of course, as a rule, we have less severe hemorrhage in the first class of cases, and generally in such cases we have little or no hemorrhage until the very latest weeks of pregnancy; or until the time immediately preceding parturition.

For there is little disturbance of the utero-placental vessels until the uterus has begun to act upon its fibres surrounding the inner os. In the second class, hemorrhages are likely to occur earlier and to be more severe, sometimes being dangerously profuse weeks before the natural period for parturition.

In the third class, hemorrhages, as a rule, occur much earlier, with little or no exciting cause, and are apt to be severe from the first.

But there are occasional exceptions to these general rules, as early and severe loss of blood may occur in the less dangerous implantations; while even in central placenta previa, there may be no hemorrhage until within two or three weeks of expected confinement. I will refer to a case of this kind later on, which came under my care recently.

As to the conditions—I refer more particularly to the fact that there is generally or quite often a marked difference in the tissues of a primipara, as compared with those of a multipara in cases of placenta previa. In the primipara we are apt to have the firm *resisting perineum and vagina*, as well as cervix uteri; while in the multipara we are almost sure to have the soft and distensible, if not broken-down perineum, with capacious vagina, even though the cervix may be rigid or unyielding.

And particular attention should be paid to the differences alluded to, as they may very materially affect the value of one or other mode of dealing with a given case.

Having, in this rather crude manner, outlined the character of the cases which may present themselves, let us look over the various plans, or the more important ones which from time to time, by different authorities, have been recommended for the management of this “unavoidable hemorrhage.”

Of the numerous means resorted to by prominent obstetricians, I shall refer only to those which seem to me to deserve particular attention at the present day.

First. I will mention the application to the bleeding os of chemical styptics, such as the vinegars, alum, iron preparations, iodine, etc., which have been used for over a century by various practitioners.

Second. The tampon of the vagina as proposed by Leroux, in 1776, and as since employed by many of the best operators.

Third. The vaginal tampon of Wigand, which he used for the completion of the first stage of labor and the induction of the second stage.

Fourth. Rupturing the membranes, and allowing the fetal mass to press upon the bleeding points.

Fifth. Rupture of the membranes, and rapid delivery of the child by *accouchement forcé*.

Sixth. Bimanual version, rupturing the membranes, bringing down a foot, and leaving the case to nature.

Seventh. Separation of the placenta according to Simpson's method, and either leaving the case to nature, or delivering by version.

Eighth. Artificial dilatation according to Barnes' method, with or without subsequent artificial delivery.

These constitute the chief means employed by the obstetricians of to-day; but they are used under different circumstances, and with different ends in view by different operators.

Thus, one applies styptics cautiously only in the very earliest hemorrhages which occur. Another may pursue this plan through several hemorrhages, hoping to prolong the development of the child.

One class of practitioners may use the vaginal tampon with the one object in view of temporarily controlling hemorrhage, while another not only proposes to control bleeding, but also, by its means, to excite uterine contractions, and thus advance the labor at the same time.

Such authorities as Lee, Lachapelle, Dewees, Trask, Hodge, and many of our later writers strongly recommend the use of the complete vaginal tampon without fear of internal or concealed hemorrhage; while others, including such men as Dr. Meigs, have opposed its use, on the grounds that occult hemorrhage would go on behind the tampon, and thus endanger the

life of the mother without an external sign of the fatal process going on within.

About 1841, Dr. Simpson attracted the attention of the obstetric world by an announcement of his bold and successful procedure of stripping off and removing the misplaced placenta, and thus removing the cause of hemorrhage. But many who were influenced by the very favorable statistics presented by Dr. Simpson have withdrawn their confidence in the operation; and even Dr. Simpson himself, in later years, confined its use to a much more limited class of cases than formerly.

Dr. Tyler Smith, Messrs. Cazeaux, P. Dubois, and many others rely much upon simply rupturing the membranes, while others have greatly limited its use, or have opposed it, on the grounds of interfering with version in case of further bleeding.

Dr. Barnes recommended and practised plugging and dilating the os uteri, by means of certain fiddle-shaped India-rubber bags distended with water; and a large majority of the best authorities have indorsed these instruments. And yet there are not a few who ignore them entirely, or oppose their use.

Thus it will be seen, at a general glance, that there are contrary views in regard to most of the well-known methods in practice. Let us endeavor, then, to go somewhat briefly over these various methods, and endeavor to ascertain their respective places and value in the management of placenta previa.

Styptics applied to the bleeding os. These have been used in various forms, for generations. Vinegar applied on cotton-wool against the cervix, alum applied in lump or in linen bags, the salts of iron in a similar manner, have been used up to the present time by some, with a view of gaining time. I think the day is *past* for such treatment. Posture: Absolute *rest* should take the place of the local application of chemical styptics. The vaginal tampon: Originally, the tampon, made either of cotton-wool or pieces of cloth, was saturated with vinegar or other styptic, by which a coagulum was formed in and about the os uteri, and was often removed and renewed. Later on, the chemical styptic was omitted, and now it is customary to rely entirely on the mechanical effects of the vaginal plug to control the bleeding.

This is one of the most valuable means we have at our command, in this form of uterine hemorrhage, and is particularly valuable in those cases where the bleeding comes from a firm, un-

dilated, and not easily dilatable cervix, where there is a tight vagina and stiff perineum, and where there is no indication to hasten the process of delivery. The tampon may be contra-indicated in cases where there is a lax condition of the uterus, with symptoms of concealed hemorrhage, and where for any reason it may be desirable to accomplish delivery quickly. Various methods of plugging the vagina have been practised. The colpeurynter or rubber bag, distended with air or water, has been used instead of cotton, etc., but for the purpose of arresting hemorrhage it is inferior; for usually a considerable clot will form in the vagina, and the colpeurynter is apt to be more or less displaced, allowing further bleeding.

Some have recommended ordinary roller bandages or other long strips of material to be used in packing the vagina; but, in my opinion, there is nothing so good as carbolized *wet cotton*, in comparatively small pieces, packed carefully *around* the cervix, and then following down until the whole vagina is packed firmly.

This, of course, can only be done properly by means of a Sims speculum, and he who attempts to satisfy himself with anything short of this complete application of the plug will be sadly misled as to the value of the tampon in obstetrics.

By many, the vaginal tampon is used only to arrest present or threatening hemorrhage, and is often removed for the purpose of examining the condition of the cervix, etc., and then replaced or renewed as quickly as possible, until dilatation shall have so far advanced as to allow of immediate delivery.

But, about fifty years ago, Prof. Wigand, of Hamburg, recommended tamponing the vagina as just described, and *leaving it in situ* while labor advanced, even allowing it to be forced down over the perineum, and extruded through the vulva, unless there were general symptoms showing the necessity for immediate interference.

He claimed that, in this manner, not only would hemorrhage be controlled safely and surely, but that labor could go on with only an insignificant loss of blood, effused and coagulated between the placental surface and the tampon; that the presenting part of the child made more efficient pressure upon the bleeding vessels, on account of the counterpressure of the vaginal plug, and that, by the time the plug began to be extruded, the os would be sufficiently dilated or dilatable to permit ready

delivery by artificial means, if expulsion of the child were not already partly effected.

Dr. Hodge, in commenting upon this method, says: "The advantages of this practice are, we think, great; as, first, it is in perfect accordance with the natural mode of delivery.

"It promises, therefore, many of those benefits which we have seen to accrue in spontaneous delivery in cases of placenta previa. Second, there is no necessity for the removal of the tampon, and no danger, therefore, of disturbing the external or internal coagula, and thus increasing the hemorrhage. Third, it secures, so far as the bleeding is concerned, all the advantages derived from rupture of the membranes by the natural contractions of the uterus, or by the influence of ergot, and from the internal pressure of the head against the bleeding surface of the uterus, etc.

"Fourth, the woman escapes all the dangers and sufferings arising from the operation of version by the feet; there is no increase of hemorrhage from the removal of the tampon and coagula, or from further detachment of the placenta by the hand of the accoucheur, and no danger from contusions or lacerations of the cervix uteri. She escapes also the consequent exhaustion from the increased hemorrhage and pain necessarily connected with the operation of version.

"Fifth, if this plan can be executed, all the evils which may result from the extraction of the placenta are evaded. Sixth, the severe and dangerous consequences of forcible delivery through an undilated os uteri are thus avoided. Seventh, the comparative benefits are as great, if not greater, to the child. Extraction of the placenta necessarily endangers the life of the infant, and in all cases of delay is fatal. As Dr. Churchill says, 'the mortality is fearfully great,' while by version and all other modes of artificial delivery the deaths are stated at sixty per cent to seventy per cent. We have no statistics respecting the result to the child in deliveries by Wigand's method, but certainly, the prognosis would, *a priori*, be far more favorable, as the placental functions will not be interrupted by any agency of the accoucheur's, as in cases of version by the feet; neither will the infant be subjected to any unusual force or pressure, while the hemorrhage is greatly checked and must invariably cease when the head enters the vagina.

"This practice is also adapted to pelvic presentations, as, by

encouraging the contractions of the uterus, the hips will be forced through the os uteri, and against the tampon, so as to distend the perineum, as in cephalic presentations. If, after the removal of the tampon, spontaneous delivery does not speedily ensue, the infant may be removed as in ordinary cases of breech presentations."

I would here suggest a further advantage, which indeed suggests itself, but upon which I wish to lay especial emphasis, namely, that by this method in primiparæ we get a fair imitation of nature's process of physiological softening and relaxation of the parts forming the lower portion of the parturient canal—the vagina, perineum, etc. This advantage is one greatly to be desired in placenta previa, occurring in primiparæ where the rigidity of the perineum and vaginal canal seriously complicates the case, and adds difficulties and danger to mother and child. Danger to the mother of rupture of the soft parts, thus increasing the risk of septic absorption and inflammatory processes, and also additional hemorrhages from such lacerations. And danger to the child by rendering its delivery doubly difficult, and its destruction much more liable.

The vaginal tampon would be contra-indicated in certain malpositions of the child—either a vertex or breech presentation being desirable before we proceed to plug the canal. The waters having been evacuated, with a lax atonic state of the uterus strongly predisposing to internal hemorrhage, would also be a contra-indication. Any condition demanding immediate *active* interference in behalf of delivery would seem to call for other means than the simple vaginal tampon.

Rupture of the membranes has been practised for many years for the purpose of arresting hemorrhage in placenta previa. It, too, is practised under different circumstances by different operators; and there might be said to be three different ways in which this simple operation is related to the management of the case.

First, the simple puncture, allowing the waters to escape, and thus bring the solid portion of the presenting fetus to press upon the bleeding vessels.

Second, to puncture the membranes and deliver by *accouchement forcé*, either by forceps or podalic traction.

Third, puncture of the membranes combined with bimanual version, by which a foot may be brought down, and thus plug

the cervical canal, leaving the further progress of the case to nature.

There is *apparently* little difference between the first and third of these methods ; but it will be observed that in the latter method nature is materially aided by the presence of the lower extremity of the fetus, it being drawn down so as firmly to engage in the os, and thus act as a dilating wedge as well as a compressing agent as labor goes on.

This method has been brought prominently before us in the December, 1884, number of the *AMERICAN JOURNAL OF OBSTETRICS*, by Dr. Richard Lomer, of Berlin, in which he gives most flattering statistics in favor of the Braxton Hicks method of bipolar version, the bringing down of a foot and leaving the case to nature.

Dr. Lomer says : " Turn as soon as you can pass one or two fingers through the cervix. It is unnecessary to force your fingers through the cervix for this. Introduce the whole hand into the vagina, pass one or two fingers through the cervix, rupture the membranes, and turn by Braxton Hicks' method. Use chloroform freely in performing these manipulations. If the placenta is in your way, try to rupture the membrane at its margin, but if this is not feasible, do not lose time—perforate the placenta with your fingers, get hold of the leg as soon as possible and pull it down. Up to this moment the treatment is an energetic, active one. Experience shows that flooding now ceases.

" The next part of the treatment is of an expectant nature; a quick extraction made now would cause rupture of the cervix and fatal post-partum hemorrhage. Wait, therefore ; give the patient time to rally her powers ; wait until pains set in, and then assist nature by exerting slow and gentle tractions.

" If the child is in danger during this time, let it run its risks ; let it die, if necessary, but do not endanger the mother by quick extraction ; cervical laceration is always a dangerous thing, on account of the great vascularity of the tissues of the cervix and its liability to rupture.

" Atony of the uterus is also a disagreeable complication, especially in cases of placenta previa, where there generally is not much blood to lose. Both these dangers may be got rid of by an expectant treatment after turning. Pains generally set in quickly, the cervix distends rapidly, and the child is born gene-

rally between one and two and one-half hours after turning."

This method certainly, to a great extent, does away with the danger of cervical laceration, an accident not to be underestimated in these cases. For the cervix is necessarily more vascular, and hence there is additional danger of subsequent bleeding or septic infection.

Summing up the advantages of the method in question, Dr. Lomer says: "It does away with the tampon and with the dangers of infection and loss of time this involves.

"Second, it allows us to operate early, *i. e.*, when not much blood has been lost.

"Third, it arrests hemorrhage with great certainty.

"Fourth, it gives the patient time to rally, gives time for the cervix to dilate, for pain to set in. It therefore prevents post-partum hemorrhage (laceration of the cervix, atony of the uterus)."

The death-rate among the mothers, as given by Dr. Lomer, gives a mortality of about ten per cent, certainly a very favorable exhibition.

But it is not within the limits of this paper to discuss the matter of statistics, as there needs to be great care and discrimination in coming to conclusions in such matters.

Having almost no experience personally in the expectant plan, as above described, I would be compelled to offer only theoretical objections or cautions. There are certainly many cases where the method might be *too passive*, and where labor would be so tedious as to endanger the mother, as well as to certainly destroy the child.

Although it is true that the prognosis as concerns the children is generally bad, yet we would seldom be satisfied to allow a child to perish by this method, if more rapid dilatation and extraction *might* save it. There are also cases, not a few, where there is early appearing exhaustion of the mother, and *waiting* for delivery would be dangerous. As a practical fact also, and, I think, not to be entirely ignored, it is well to avoid unnecessary delays whereby the physician may be also worn out in body and mind, thus rendering him unfit for the finish of the case. I do not mean to suggest by this remark the *convenience* of the physician as against the interests of the patient. Rupturing the membranes and practising *accouchement forcé* through an un-

dilated or slightly dilated os is a dangerous operation, more especially in primiparæ or where there is rigidity.

Violently active measures are in such cases dangerous assaults upon the lives of the mother and child. Frightful lacerations of the mother's parts, and death of the child on account of traction alone, are liable to occur; and I can scarcely conceive of a case where this operation would be justifiable.

The cases must also be exceedingly rare, where craniotomy or other mutilation of the child would be demanded.

Separation of the placenta according to Dr. Simpson's method. I should judge that very few cases would occur where Dr. Simpson's method of extracting the placenta would be the most desirable means, and I should be inclined to confine it to those cases where the child is *known* to be already dead, and where there is faulty pelvis or other serious obstacle in the way of delivery, or where the placenta itself offered great difficulties in opposing the descent of the child.

Artificial plugging of the cervical canal by Barnes' dilators, with subsequent dilatation of the os, partial separation of the placenta, and delivery either by nature or artificially, is a method which has many exponents and some opponents. When Dr. Barnes put into our hands the India-rubber water bags, with which to dilate the os uteri, he gave us one of the most valuable instruments to be found in the armamentarium of the obstetrician. Nearly twenty years ago, I heard one of our most brilliant obstetricians say that "the accoucheur who wilfully neglected to provide himself with Barnes' dilators was culpably derelict in his duty to his patients." I humbly echo these sentiments to-night, for, in my limited experience, I have known many valuable lives to have been jeopardized and lost, for the want of this simple appliance.

I am happy to see that in that very valuable work which has so recently shed deserved lustre not only upon the name and fame of its author, Dr. Lusk, but has reflected honor upon the reputation of American obstetric literature, full prominence is given to this simple mechanical appliance, which is almost invaluable in the practice of our art.

Dr. Barnes, I believe, originally relied alone on the artificial separation of such portions of the placenta as were attached within an inch or two of the cervical ring. As the uterus contracted more freely, the hemorrhage ceased and the dilatation

went on more rapidly, and at the same time partial utero-placental circulation was kept up for the benefit of the child.

This is undoubtedly a valuable method in certain cases; for instance, where labor is established, and there has not been exhausting hemorrhage already. But there are cases of this kind which so confront us that we dare not cause even the *limited* gush which will follow the partial stripping off of the placental attachment.

Under these circumstances, the dilators of Barnes are invaluable, as they may be made to effectually dilate the os, at the same time the hemorrhage is actually controlled, while labor pains are excited and increased, thus adding the elements of success to the parturient process. The preparatory dilatation of the os, which by these dilators may be accomplished either slowly or rapidly, removes one of the obstacles to safe delivery, by the mere opening to full size the uterine mouth.

It also necessarily separates so much of the adherent placenta as is requisite to allow delivery; at the same time the instrument prevents hemorrhage from taking place. The water-bags, as they make their distending pressure, exert a direct pressure, in part at least, upon the bleeding uterine vessels which have been exposed by the placental separation.

As has been said, they also cause firm uterine contraction, thus securing fetal pressure, and contributing to the prophylaxis of post-partum hemorrhage also.

There are several objections to the usual form of Barnes' dilators which are worthy of notice, and it is especially to the correction, as far as possible, of these faults that I wish to call attention. The instruments, modified, as I shall demonstrate, seem to fulfil all the indications above alluded to, without the attendant disadvantages.

The usual fiddle-shaped bags are inserted by means of a sound introduced into the little pouch, which is situated, necessarily, at an awkward point on the surface of the bag. This pouch, besides being liable to be punched through in a somewhat dangerous manner, in the attempt at introduction, is a convenient receptacle for septic matter. And I have always felt misgivings in passing such a one into the uterine mouth. That the operation of inserting an ordinary Barnes' dilator in the ordinary manner is often a tedious performance, I think

those who have most frequently used them or have seen them used, will agree.

I have more than once seen a skilful accoucheur baffled for fifteen or twenty minutes in this simple manœuvre. To facilitate matters, Dr. Cowan, of Danville, Ky., has offered a modification of these bags, in which there is no superfluous pouch, the instrument being made more cylindrical, and the distal end reinforced so as to allow firm pressure of a rod which is passed through the tube into the cavity of the dilator.

There is one objection to Dr. Cowan's instrument as it is presented, viz., the necessity of withdrawing the inserting rod before distention of the bag is commenced. This renders it liable to become displaced from the os uteri before it is expanded sufficiently to retain it. Again, there is the very serious objec-

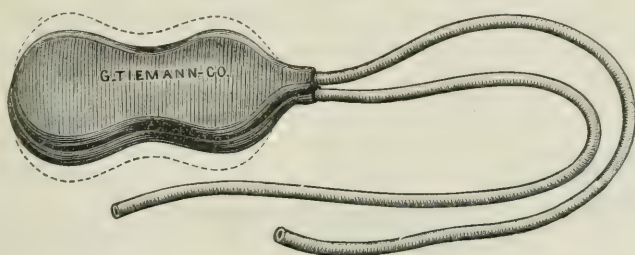


FIG. 1.

tion to all the dilators described, in their use in cases of placenta previa, that they have to be graduated in sizes to suit the dilating cervix.

In exchanging from a small one to a larger, there is liability to some hemorrhage, and the operation of insertion has to be gone through a second or third time. Anything we may do to avoid unnecessary manipulation is desirable, especially in instrumental manœuvres.

I have, therefore, devised a modification of Dr. Barnes' dilators, by which the operation of dilatation, etc., by their use, is easily accomplished without the disadvantages alluded to. As will be seen at a glance, it is a duplication of the bag and tube, so that one side may be distended independently of the other, thus requiring but one insertion to get a very extensive dilatation. These bags are made as smooth as possible, have no extra pocket, and are easily and quickly inserted by means of a

pair of somewhat curved forceps, and are held *in situ* until sufficiently distended to retain themselves within the grasp of the cervix.

Any one who will use this means of inserting the water-bags will be impressed with the advantage gained over other methods. In placenta previa, time is exceedingly valuable, and this instrument renders the operation more valuable by being *promptly* accomplished. I have generally found one size all that is required in dilating the cervix, so that *one* insertion has sufficed to complete the necessary expansion. They are easily cleansed, are very strongly made, and there need be but two sizes used. I have found them also very valuable in the induction of labor for eclampsia, and I know of *no other means which will accomplish delivery so safely and quickly*. The objection made by some to India-rubber dilators, that they are "apt to be found rotten just when needed," is scarcely worthy of notice. Be-



FIG. 2.

cause, in the first place, when well made and preserved, they will last for many months. (I have used one over two years.) And second, they may be obtained new on order at the better instrument makers of the cities.

Messrs. Stohlnan, Pfarre & Co. have made a very superior class of these goods for me. The largest size I have found useful as a vaginal dilator or colpeurynter. For expanding this instrument, I always use carbolized hot water. The pressure made by it is very powerful, and they should be slowly injected; *one* side being fully distended first, and, as soon as the grasp of the cervix begins to relax, the other tube is attached to the syringe and very slowly filled. In this manner *continuous dilatation with complete occlusion of the bleeding os* is accomplished, giving us most valuable aid in the management of placenta previa.

I ought to make mention of Tarnier's dilator, which consists essentially of a rubber bulb, which is carried *through* the os *into* the uterine cavity, and being distended to about the size of a large English walnut, is left to excite uterine contractions. This instrument will seldom be useful, as the larger instruments may generally be introduced without difficulty by the means above described. Before closing this paper with the conclusion I wish to arrive at, I will relate very briefly an account of a case of complete placenta previa which I had the misfortune to meet with about two years ago.

Mrs. I., æt. 25 years, a primipara, was within three weeks of her expected confinement when she was seized, while urinating, with a "dull pain" in the sacral region, and a gush of a couple of ounces of blood from the vagina, the first she had experienced during her pregnancy. I immediately put her to bed, and, on examination, I found a very thick cervix with a hard border, the os undilated and undilatable, and very high in the pelvis.

The perineum and vagina were the most rigid and unyielding I have ever encountered. On a second examination, I was enabled to insert the joint of my index finger through the os, and reached the rough surface of the placenta. There being no further bleeding, I kept the patient quiet, and several slight hemorrhages occurred during urination within the following week. At that time there was evidence of impending labor, and I made preparations for immediate interference. On making a more thorough exploration, I found the placenta everywhere implanted over the os, the head of the child presenting high up in the left ilio-pubic region. Evacuating the bladder and rectum, I carried my finger within the os, and swept it around so as to effect a separation of a ring of placental tissue around the whole cervix. The hemorrhage resulting was slight, as the uterine contraction seemed to force the placental mass down so as to control bleeding. In an hour the pains were harder, but very short, and made little impression on the thick cervix. As the pains increased, gushes of blood occurred, and I introduced a good-sized dilator, after which there was no bleeding whatever.

The os now rapidly dilated without hemorrhage, and dilatability was complete in forty minutes. Chloroform was administered. I introduced a hand into the vagina with some difficulty, and (having removed the dilator) swept away a large circle of placental attachment. Passing the hand backwards, I, with some difficulty, reached membranes, punctured them, and, by combined version, seized a foot and turned. As soon as the breech engaged, all oozing ceased. The arms gave great difficulty in their delivery on account of the uncommon rigidity of the vagina and perineum. There was no difficulty in delivering the head by pressure from above. Unfortunately, in our efforts

to bring down the uplifted arms, we lacerated the perineum badly. The child was born dead. There was no more hemorrhage, and the placenta was cast off spontaneously. This organ was very remarkable for its size, being probably one of the largest ever recorded, measuring in its short diameter, *nine inches*, and in its long diameter, *sixteen inches*, but weighing only a few more ounces than ordinary. The cord was inserted very much to one side. I presented the specimen, with the history of the case, to the Harlem Medical Association.

The patient progressed favorably towards recovery, with but little fever; but on the seventeenth day, while sitting up in bed crocheting, she was seized with violent angina pectoris and dyspnea, and rapidly succumbed to the embolism which had taken place. I ought to have remarked that this patient had albuminuria, and early in the labor began to show signs of extreme irritability and exhaustion. On this account I was more willing to hurry the delivery than I otherwise would have been, and hurrying the delivery produced a dangerous laceration of the mother's parts, which, I think, could have been avoided by proper preparation. The natural softening down of the vagina and perineum had *not* taken place as it would have done under proper stimulation. This should have been done either with a colpeurynter or vaginal tampon. By distending the vagina simultaneously with the dilatation of the os, I should have had not more than one-third of the difficulty in delivery, and it is altogether probable that injury to the mother and child would have been averted. In this particular case, the Braxton Hicks method, according to Lomer's recommendations, would have suggested itself, but I feel convinced that the patient's mental and physical condition demanded more active interference. My mistake, probably, was that the delivery was made too actively through *such unprepared passages* as this mother possessed.

In conclusion, I would offer the following rules as appearing to me best for our guidance in general, in dealing with placenta previa.

First. In any case avoid the application of all chemical styptics, which only clog the vagina with inert coagula, and do not prevent hemorrhage. At the very first, the patient should be put in a state of absolute rest—body and mind—and a mild opiate is often desirable at this stage to quiet irritation.

Second. Inasmuch as the dangers from *hemorrhage* are greater than all else to both mother and child, at the earliest moment preparations should be made to *induce* premature labor, and labor being once started, the case should be closely watched to its termination by the accoucheur.

Third. In primiparae, and mothers with rigid tissues, the

vagina should be well distended, by either the colpeurynter or tampon, as an adjuvant to the cervical dilatation.

Fourth. In the *majority* of cases generally, and in all cases especially where there is reason to believe that rapid delivery may be required, it is more safe to rely upon the *thorough, continuous* hydrostatic pressure of a Barnes' dilator than on pressure by the fetal parts.

Fifth. Where the implantation is only lateral or partial, and where there is no object in hurrying the labor, bipolar version, drawing down a foot, and leaving one thigh to occlude and dilate the os, may be practised according to the method of Braxton Hicks, except in cases where the head presents well at the os, when

Sixth, the membranes should be ruptured, the waters evacuated, and the head encouraged to engage in the cervico-vaginal canal.

Seventh. In the majority of cases, podalic version is to be preferred to application of the forceps within the os.

Eighth. In some cases, in the absence of sufficient assistance or the necessary instruments, the complete vaginal tampon, in part or wholly of cotton, may be applied and left *in situ* until (within a reasonable time) it is dislodged by uterine contractions and the voluntary efforts of the mother. In case of favorable presentation—occiput or breech—the tampon will not materially obstruct the descent of the child, and in some cases the tampon, placenta, and child will be expelled rapidly and safely without artificial assistance.

Ninth. The dangers of septic infection by means of the tampon or India-rubber dilators are so slight, if properly used, as not to be considered as seriously impairing their great value.

Tenth. Whenever it is possible, dilatation and delivery ought to be *deliberately* accomplished, in order to avoid maternal lacerations.

Finally. As cases of placenta previa offer special dangers from post-partum hemorrhages, septicemia, etc., the greatest care must be exercised in every detail of operation and nursing, to avoid conveying septic material to the system of the mother.

Absolute cleanliness, rather than chemical substitutes for that virtue, should be our constant companion in the practice of the obstetric art.

A CASE OF EXTRAUTERINE PREGNANCY. DISCHARGE OF
FETUS THROUGH THE POSTERIOR VAGINAL
WALL. RECOVERY.

BY

WILLIAM T. LUSK, M.D.

A. M. æt. 32, Bohemian, was admitted to ward 21 of the Bellevue Hospital, on the 25th of May, 1885. She had had three children, the last of which was born three years ago. At her third confinement she had no physician, and received no proper care. Since that time she had suffered constantly from pelvic pains. After the birth of her child she was removed to the Mt. Sinai Hospital, where she remained for a year, during which period an operation for laceration of the cervix was performed. Soon after leaving the hospital her pelvic pains returned, though she continued to work until six months previous to admission to Bellevue. From that time to the present, the pains at intervals were so severe that work became impossible. After the birth of her last child, menstruation recurred at two to three weeks' intervals, and lasted two to three days. During the month previous to her admission, a bloody discharge occurred two to three days in each week. On the day of admission, the hemorrhage was quite profuse. The patient was then seized with severe pains attended with partial collapse.

The first examination revealed a tense fluctuating tumor occupying the cul-de-sac of Douglas, which pressed the uterus upwards and forward. I saw the patient on the following day (May 26th), and pronounced the case one of fresh hematocele with the blood still in a fluid condition. On the 30th of May I examined the tumor again. It had increased in size; it still fluctuated, and extended beyond the median line toward the left side. This condition led me to suspect extrauterine pregnancy, but on puncturing the tumor with Mundé's aspirating syringe, I withdrew a quantity of nearly pure blood, so that the original diagnosis was seemingly confirmed. The tumor, however, continued to increase in size. On the 15th of June, the cervix uteri was flattened against the symphysis, and the fundus was elevated upward toward the navel. The extension of the tumor to the left side was pronounced. On introducing the sound, the uterine cavity was found to measure three inches, and the uterus was freely movable. The distinct pulsations of the vessels in the vaginal walls, together with the previous history, now convinced me that I had to deal with an extrauterine pregnancy. A small quantity of fluid was again withdrawn with a hypodermic syringe. This time the fluid was perfectly clear, and, according to Dr. Biggs'

report, contained no fibrin, a very small amount of albumin, a few leucocytes, and a considerable number of flat epithelial cells. From the negative appearances the fluid was regarded in all probability as amniotic. The faradic current was ordered on the 17th of June, to be employed twice daily, for five minutes each time, the positive pole being applied to the left side, and the negative pole to the surface of the tumor alternately through the vagina and the rectum. At this time I departed for Europe, and left the case in the care of Dr. Reginald Sayre. On June 19th, the temperature rose to 102° , and the faradic current was discontinued. On the 20th, the patient had a chill; temperature $102\frac{3}{4}^{\circ}$. Symptoms of mild inflammatory trouble continued until July 2d, when the axillary temperature sank to $95\frac{3}{4}^{\circ}$, and the rectal temperature ranged between $96\frac{1}{2}^{\circ}$ and 98° . With this fall the patient expressed herself as almost free from pain, and as feeling very comfortable. The pulse ranged from 90 to 120, but was very thin and compressible. A slight diarrhea developed. The next day the temperature rose to $100\frac{2}{3}^{\circ}$, and the diarrhea became almost continuous. On the 8th of July, the diarrhea had ceased, but the temperature rose to $103\frac{3}{4}^{\circ}$. On the 9th, the patient vomited and the high temperature continued. On the 10th, the temperature reached 104° . Owing to the feebleness of the pulse, stimulants were freely administered. From the 10th to the 15th inst., the temperature ranged between 100° and $102\frac{1}{2}^{\circ}$. On the 15th, the nurse observed a swelling projecting from the posterior vaginal wall. Dr. Sayre was summoned, and discovered an opening through which protruded a fetal head. After enlarging the opening with his finger, he removed a fetus measuring seven and one-eighth inches in length, with about eight inches of cord attached. The fetus was partially decomposed and the odor from the sac was extremely fetid. Dr. Sayre then inserted the half-hand into the sac and removed the placenta piecemeal. The sac-walls were thick and were everywhere smooth except at the placental attachment. No bleeding ensued upon the removal of the placenta. After the manipulations mentioned, the patient was extremely feeble. The pulse was 144 and the respirations were 58. Six hypodermic injections of whiskey were employed, together with a hypodermic containing Magendie's sol. morph. π ij.; ext. dig. fl., gtt. ij., and atropia, $\frac{1}{120}$ gr. Owing to the feebleness of the patient no disinfectants were employed for several hours.

From this time onward, Dr. Sayre combated the weakness of the heart with stimulants and digitalis. Many times the patient became so feeble that recovery seemed impossible, but with judicious care and watching, the asthenic symptoms gradually disappeared, so that by the middle of September she was able to sit up, and by the 1st of October returned home cured.

In considering the foregoing history, we find, as is not uncommon in cases of extrauterine pregnancy, a prolonged precedent pelvic inflammation. At the first examination, hematocele,

due probably to partial rupture of the sac, existed as a complication. At the time of the application of the faradic current I believe the fetus was still living. The continued rapid growth of the tumor, and the marked pulsation of the vaginal vessels exclude the theory that the fetus had perished. The introduction of the needle into the amniotic sac was probably the cause of the subsequent putridity of the fetus and the sac-contents. The final recovery of the patient was doubtless due to the good judgment of Dr. Sayre in the after-treatment. Disinfectant injections were employed daily, but were never pushed from theoretical grounds, when contra-indicated by the patient's condition. At times the patient was so feeble that stimulants had to be administered by a dropper, deglutition of any quantity of fluid at one time being impossible.

AN OBSCURE CASE OF ABDOMINAL GESTATION, WITH
REMARKS BEARING PARTICULARLY ON TIMELY
DIAGNOSIS AND TREATMENT.

BY

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CASES of abdominal gestation are rarities, and correct and timely diagnosis of this condition is exceptional. Bandl¹ tells us that out of sixty thousand obstetrical and gynecological cases admitted to Karl Braun's Clinic, in the Vienna General Hospital, only five were cases of extrauterine gestation; but this statement, whilst true of this particular clinic, makes the condition rarer than in reality it is, and requires modification in the light of more recent researches. Garrigues, in preparing a paper² on the subject of extrauterine pregnancy, carefully consulted the literature, and reached the conclusion that, while the impression is general, and the statement is made in our textbooks that extrauterine pregnancy is rare, it is not by any

¹ Hart and Barbour, "Manual of Gynecology," p. 548.

² Trans. Am. Gyn. Society, vol. 7.

means an uncommon abnormality when compared with many other abnormalities of gestation. He found, for instance, nearly two hundred cases recorded within less than four years. These data concern all varieties of extrauterine gestation, however, and so a single variety is still deserving of the name—rarity, and we possess in this fact one reason why correct diagnosis is exceptional. Further, when we consider the means at our command for diagnosis, as stated in our text-books, and when we remember the factors which almost infallibly tend to lead the physician towards error, this becomes pardonable and ceases to be a reproach, although the incentive towards formulating further means towards correct and timely diagnosis becomes all the stronger. I cannot more forcibly instance the obscurity surrounding diagnosis than by citing, as typical of what ordinarily happens, the following case,¹ in the words of the reporter, Goodell of Philadelphia: “The second case was one of ventral fetation, which occurred in the practice of Dr. S. Perkins, of West Philadelphia, and which I saw in consultation in the second month. It was also seen later by Dr. Parry, and it led him to write his most excellent book on the subject. Several eminent men of Philadelphia saw the patient. Two of them diagnosed pelvic cellulitis. At the time of my visit I believed it to be a case of pelvic peritonitis. Some months later, Dr. Parry was called in; the same day he came into my office and said it was a case of normal pregnancy, and laughed greatly at my blunder. But I said in reply, I am sure there is something abnormal there. As the child died and labor did not come on, I was again called in, and made up my mind that it was a case of pregnancy in a retroflexed womb. But on the next day it suddenly flashed across my mind that it was a case of extrauterine fetation.” In other words, here was a case watched from its inception by careful and eminent men, with the result that cellulitis, peritonitis, normal pregnancy, pregnancy in a retroflexed uterus were the changes rung on diagnosis before the correct note was struck.

Such an eminent authority as Robert Barnes says:² “Almost all the cases in which this form of gestation was suspected, which have come under our observation, turned out to be ovarian cysts.” Playfair³ says: “The diagnosis of abdominal ges-

¹ Trans. Am. Gyn. Society, vol. 7, p. 239.

² “System of Obstetric Medicine and Surgery.” 1885.

³ “System of Midwifery” (Harris), 1885.

tation is by no means as easy as might be thought, and the most experienced practitioners have been mistaken with regard to it." Cazeaux says:¹ "Finally, when by the usual signs we have become assured of the existence of pregnancy, and we suspect that it is extrauterine, the diagnosis will be reduced to a certainty if we can determine the capital point, which is that the uterus is empty." Schroeder says:² "... or if there be an abdominal pregnancy, it is generally easy in the first months to make sure of an extrauterine tumor, whilst the diagnosis of pregnancy is frequently involved in difficulties. At a later period the reverse is the case. . . . Pregnancy can easily be diagnosed, but to show that the fetus is outside the uterus may be very difficult." Thomas says:³ "The keynote to successful treatment in this formidable class of cases is diagnosis, and diagnosis not late, but early, not approximate in its character, but to a great degree certain. . . . Even after fetal movements, the fetal heart, and the precious results of abdominal palpation put themselves at our disposal, accurate diagnosis is often far from easy; for a uterus bicornis, or double uterus, may exist—one being empty and the other full; a very thin-walled uterus may, while containing the child, give to the palpating hands the impression that nothing but the abdominal walls can possibly intervene between them and the fetal body; or both normal and extrauterine pregnancy may have advanced simultaneously to full term, the extrauterine fetus, as in the well-known case of Dr. Pollak, being much the more generously nourished of the two."

The above extracts from authoritative sources sufficiently prove, in the first place, the assertion that diagnosis is difficult, and, in the second place, that diagnosis is believed only to be possible by differentiating the body of the uterus from the abdominal gestation sac, or, this failing, by proving the uterus empty by means of the sound. Indeed, the difficulty in diagnosis hinges on the double fact that we are first called upon to prove the existence of pregnancy, and then to prove that the embryo is developing outside of the uterus. Now, the classical rational signs of pregnancy are, as a rule, so obscured in the presence of an ectopic gestation, and the physical signs are so modified, that, even though careful inquiry and examination may lead us to

¹ "Theoretical and Practical Midwifery," 1878.

² "Manual of Midwifery," 1873.

³ T. Gaillard Thomas: "Extrauterine Pregnancy." ("Trans. Am. Gyn. Society," vol. 9.)

favor the belief in the presence of gravidity, we are still left to face the question—is the fetus within the uterus or without? The uterine sound will solve this question, but he is a bold man who, in the presence of pregnancy, will use this instrument for the purpose of differential diagnosis without clearer moral evidence of an empty uterus than is often, in abdominal gestation, obtainable. My remarks, of course, are not at all applicable to those exceptional cases where the obscurity in diagnosis is less, owing, possibly, to the fact that the physical signs are more pronounced, or that it has been possible to watch the case carefully from its very inception. Such is not the fortune of the majority of us. Diagnosis is but too often forced upon us at our first visit, and frequently then the time is already at hand when error will certainly be fatal to the child, and, possibly, to the mother. It is apparent, therefore, that we are in need of a diagnostic factor uniformly applicable, and of value particularly in the obscure cases where the sound is needed for diagnosis, and yet we hesitate to resort to this instrument lest it disprove abdominal gestation by proving uterine. I believe that we possess such a factor; and yet, curiously enough, under the diagnosis of abdominal gestation, no mention is made of it except by one authority I have consulted, and its value, hence, did not suggest itself to me until I had personally made an error in diagnosis, as noted in the case I report further on, and the truth was brought home to me that, in the very next case of the kind I saw, there would remain the same liability to error in the absence of a diagnostic factor less radical than the sound.

It is not my purpose to enter upon the question of the differential diagnosis of pregnancy, intrauterine and ectopic. I limit my paper to a brief statement of the diagnostic factors at our command in advanced stages of abdominal pregnancy, where the vaginal and conjoined methods of examination fail in giving us the courage to resort to the sound, and I leave to the conclusion of the paper the narration of the case of abdominal gestation I recently encountered, with the remarks suggested by the case.

The chief rational signs relied upon for diagnosis of advanced abdominal gestation are: 1. Irregular discharges, either at what would correspond to a menstrual period were the woman not gravid, or in the intervals. 2. Intermittent cramp-like abdominal pains. 3. The expulsion of a decidua.

Irregular discharges are alone of little value in diagnosis.

Certain conditions which may cause such discharges, such as erosion of the external os, tumors of the cervix, may readily, by means of the touch and the speculum, be excluded. A not uncommon complication of pregnancy, however, accompanied by similar discharges, will preferably suggest itself as a cause rather than the rarer condition—ectopic gestation, and this complication is low implantation of the placenta. Further, it is by no means the rule that abdominal gestation is characterized by irregular discharges. "Menstruation has been known never to appear during an extrauterine pregnancy, which lasted more than thirty years."¹ This is exceptional, of course, but nevertheless detracts from the value of irregular discharges as symptomatic of abdominal gestation. The value of this sign, therefore, is at best simply negative. It may suggest placenta previa, if present; its absence does not disprove abdominal gestation. It is almost superfluous to state that such discharges may simply mean attempt at abortion or premature labor.

Intermittent cramp-like abdominal pains occurring in advanced gestation, inevitably suggest impending labor or abortion, and this suggestion is the stronger if, coincidently with these pains, there occurs discharge; of course, if the case be watched for awhile, this suggestion is disproved, but it is not always possible to watch, and, in the interest of both the mother and the child, it may become a matter of regret that we were satisfied to wait, it may be for days, before becoming convinced that the source of the pains is not uterine but extrauterine. In a recent number of the *AMERICAN JOURNAL OF OBSTETRICS*,² two cases of abdominal gestation are reported, where pains, similar to those of labor, accompanied by slight loss of blood, suggested simply impending labor notwithstanding repeated examination. One of these cases fortunately terminated favorably to the mother, through early resort to laparotomy when a correct diagnosis had been reached; the other, however, terminated fatally, because, when the diagnosis of abdominal gestation was reached, the patient was too weak for operation. And these two cases are not unique. I refer to them as being the most recent cases, and to make still clearer the need of a more certain diagnostic sign than cramp-like abdominal pains, a sign which, as I have said, we possess, but which is uniformly overlooked, very likely because

¹ Cazeaux, loc. cit.

² November, 1885.

it is referred to in only one of the standard works we all resort to for assistance in diagnosis in doubtful cases, and the value of which, to judge from reported cases, is not appreciated.

The expelled decidual membrane would certainly be of value in diagnosis were it offered to the physician for examination. But how often does he ever see it? As a rule he never does, but must rely on the patient's vague statement that "she passed something," and this something may only have been clot. And further, no history of expulsion of decidua can be obtained often even on direct questioning. It is evident, therefore, that unless an expelled membrane be seen by the physician, this sign is also negative as regards diagnosis.¹

The physical signs of abdominal gestation are just as unreliable, so far as they are stated in our text-books, as the rational. The abdomen may have the same contour as in uterine gestation; it often is impossible to map out the uterus apart from the gestation sac; the walls of a gestation sac are, as a rule, thinner than those of the uterus, and the fetal movements, therefore, closer to the surface, but the uterine walls may also be as much thinned out, and the walls of the extrauterine cyst may be thickened, even as the uterine. In short, all the information we may possess is that our patient is gravid, that the pregnancy is not quite normal, and we fear it may be abdominal, but we also fear to test the state of the uterus by the sound, and, therefore, we conclude to wait and watch and—always hope, for the welfare of our patient, that our fears may turn out groundless. And yet we ought not to wait, and I believe need not wait, for there is always present, as an accompaniment of uterine gestation, a sign which necessarily cannot accompany abdominal gestation.

Given, now, a case where the existence of pregnancy is assured, where the gestation is advanced to the end of the eighth lunar month, where the fetus is known to be alive from the positive evidence of the fetal heart and fetal movement. The woman has, for a variable period, been subject to periodical discharges and to cramp-like abdominal pain, but does not remember having passed anything which might suggest to the physician a decidua. Physical examination—vaginal, abdominal, rectal,

¹ It is also worthy of remembrance that passage of the chorion, and even of a fetus, does not invalidate the existence of an abdominal pregnancy, for the two kinds of pregnancy may be combined. There are a number of instances on record. See, in particular, paper by Browne, of Baltimore, in "Trans. Am. Gyn. Society," vol. 6.

and these methods conjoined—reveals simply a uterine gestation within a few weeks of term. Can the accoucheur rest satisfied with the apparently clear diagnosis—pregnancy complicated by placenta previa? In the face of the symptoms, he cannot, yet, in the face of the physical examination he is not justified in resorting to the sound for differential diagnosis, although he feels that the life of the child, perhaps that of the mother, hangs in the balance. This supposititious case may be called extreme, but my paper concerns obscure cases, and it is in these obscure cases particularly that I believe one, at least, of the physical signs to which I proceed to call attention, will be of inestimable value.

There are two physical signs, proper to uterine, and not to abdominal, gestation, which will make the diagnosis for us, and yet these signs are not specifically noted in our text-books as of value in differential diagnosis. The first of these signs is the so-called “placental souffle,” or, more properly, the uterine souffle. Robert Barnes says that this souffle is rarely heard in abdominal pregnancy. Goodell,¹ more positive than Barnes, says that the absence of this souffle is very important in differential diagnosis, because, in abdominal gestation, the uterine tissue not being involved, we necessarily cannot have this murmur. If this murmur be heard, therefore, it points to uterine gestation, but it is no proof that there does not also exist abdominal gestation, for the two forms may go on combined to term. If, on the contrary, the murmur be not heard, the inference is allowable that uterine gestation does not exist, but there is no certainty, because the uterine souffle is not constant. This sign is valuable, hence, only to a degree.² The second sign is of greater importance, and I pass to its consideration.

Referring again to the two recent cases of abdominal pregnancy I have mentioned, it is noted that *the uterus could not be felt contracting during the pains*, and I will add further, that it is this *absence of contraction in the tumor*, whether pain be present at the time of examination or not, which, in the presence of pregnancy, will make the distinction between intra- and extra-uterine pregnancy (abdominal variety).

Intermittent uterine contractions, as first pointed out by Braxton Hicks, are constant accompaniments of pregnancy. In

¹ Loc. cit., p. 242.

² A similar murmur is also occasionally heard over uterine fibroids and ovarian cysts; but here, other pronounced signs of gestation are absent.

the early months, when distinctly appreciated, these contractions are strongly corroborative of pregnancy, and, in the later months, they may always be evoked by friction over the abdomen. These contractions are not simulated by other conditions than gravidity;¹ they are independent of the life of the fetus, "being equally appreciable when the uterus contains a dead ovum or degenerated fetus."² By means of these contractions we are ever in a position to decide as to whether an abdominal tumor be the uterus enlarged through gestation, or be a tumor extraneous to the uterus. Now friction over an abdominal gestation sac will not evoke such contractions; indeed, from the very nature of the structure of the sac, it is impossible for it to contract, since there are present no muscular fibres.³ My remarks, I would state, do not concern tubal or interstitial gestation, where, of course, there do exist muscular fibres, and where rupture, as a rule, occurs at an early stage. In an obscure case of abdominal gestation, therefore, where we are certain of pregnancy but are in doubt as to its site, if intermittent contractions cannot be evoked, we may at once, without fear of interrupting a uterine gestation, resort to the sound and confirm the diagnosis of abdominal gestation.

I have already stated that this sign is referred to by only one of our authorities as of value, in the differential diagnosis of abdominal from uterine pregnancy.⁴ Lusk says⁵: "The difference between intra- and extrauterine pregnancy may some-

¹ Is the uterus the only abdominal tumor which has the property of contracting rhythmically? Pajot and Tarnier report cases where the distended bladder has thus contracted; Pinard has witnessed the same phenomenon in sub-peritoneal fibroids. In both these instances, however, pronounced signs of pregnancy are absent, and, further, careful bimanual examination and the catheter ought readily to differentiate. The same remarks apply to the uterus enlarged through retained menstrual blood, where, of course, the history is very different from that of pregnancy.

² Playfair, l. c.

³ It has been claimed that organic muscular fibres are to be found in the sac, particularly near its uterine attachment; but such fibres are too few in number to simulate uterine contractions.

⁴ Since concluding this paper, I have received the first volume of a work on obstetrics ("*Clinique Obstétricale*;" Paris: Octave Doin, 1886) by Dr. Dos Santos, of Rio Janeiro, in which he says (p. 255) in substance: If we perceive rhythmical hardening of the abdominal tumor, we have to deal with a uterine pregnancy. Never can an extrauterine gestation cyst contract, since it contains no muscular fibres.

L. c., p. 319.

times be established by frictions of the abdomen over the tumor with the hand, as the uterus alone contracts in response to the stimulus." I could have wished this authority had not used the word "sometimes," for personally I cannot conceive of an advanced uterine gestation where friction will not evoke contraction, nor of an abdominal gestation where friction will. In the absence of reference to this sign, as of special value in differential diagnosis by such authorities as Cazeaux, Schroeder, Playfair, Lusk, Charpentier,¹ Thomas,² I trust I may not be accused of presumption in laying such stress on it. It is my belief, however, that we possess in intermittent contractions of the gravid uterus a means of diagnosis from abdominal gestation of the highest importance, and it is further my belief that, if the value of this sign be ever borne in mind, mistake in diagnosis, usually fatal to the life of the child, and not uncommonly to that of the mother, will become as rare in the future as it has been frequent in the past. For the list of those who have been in error is a long one, consisting not alone in names of humble general practitioners, but not rarely also of experts, and a study of the reported cases causes one to exclaim: How many of these lives, fetal and maternal, might have been saved, had correct and timely diagnosis been reached! I am satisfied that, had this sign occurred to me when examining the patient whose history I now proceed to relate, I would not have erred in diagnosis, although in her case it so happened, for reasons which I shall state, the ultimate result was not affected. The case emphasizes strongly the difficulty in diagnosis surrounding abdominal gestation, and I am impelled, therefore, to report it somewhat at length.

On the fifteenth day of June, 1885, Dr. W. J. Burnett, of Long Island City, referred Mrs. O'D. to Dr. Mundé's clinic at the Polyclinic for diagnosis. The patient desired to know if she were pregnant, and gave the following history: 28 years of age, married two years, no children, no miscarriages. "She had been expecting her confinement for six months," was plainly conscious of fetal movements, but still had had what she considered regular menstrual periods, the flow being scanty for three to four days, occasionally quite profuse, her last period dating one week past. Her general health was excellent, except at these periods, which she considered menstrual, when she suffered from sharp pain in the back and in the abdomen. The fetal movements were felt

¹ "Révue des Sciences Médicales (vol. ix., pp. 397 and 774).

² Loc. cit.

particularly in the left side of the abdomen, and, coincidentally with the movements, a "lump," which she could feel and see, appeared in this locality. The patient's *facies* was anxious, she was thin and anemic.

The above was all the history obtained at this time, and, whilst the patient was being arranged on the examining-table, I rapidly ran over the points of the case before the assembled students, and remarked that, if the patient's statement in regard to prolonged gestation were accepted, the crampy pains in the abdomen and the irregular discharges pointed to abdominal gestation, in which event I should send her to the Mount Sinai Hospital for operation; but that, if the physical examination negatived the truth of her statement, we would probably infer a uterine gestation complicated by placenta previa.

Examination of the Abdomen.—The abdomen was uniformly enlarged by a tumor reaching almost to the xiphoid cartilage, and inclined towards the right. The transverse diameter of the tumor was slightly greater than its vertical. On palpation, its consistence was elastic and faintly fluctuating. There were no irregularities on its surface; it was single, not multiple; on percussion, the note was dull, except at its upper limit, where there was resonance. Above and to the right of the umbilicus, small parts could be distinctly felt; below and to the left of the umbilicus, near the anterior superior spine of the ilium, the "lump" to which the patient referred was found. This lump was rounded and uniform, hard, although not dense, slightly movable, suggestive, at once, of the fetal shoulder. Careful palpation failed to reveal any part simulating vertex or breech; no fetal movements were appreciable. The *linea alba* was darkly pigmented. Auscultation was entirely negative.

Vaginal Examination.—Deep bluish-violet discoloration of the mucous membrane. Vaginal portion of the cervix entirely effaced. External os with cartilaginous margin presenting, almost flush with the vaginal vault, to the left and above the centre. The vaginal vault was elastic and faintly fluctuating, with here and there marked pulsation, and indistinctly boggy around the os. Posteriorly to the site of the external os, irregularities to be felt, like the markings of ribs. *Bimanually*, nothing further was ascertained, notwithstanding careful efforts to differentiate the uterine body separate from this abdominal tumor.

Examination of the Breasts.—These organs were enlarged, firm, with very distinct areolæ, and well-marked Montgomery follicles. An abundance of colostrum could be readily expressed.

In view of the physical findings, as is readily apparent, I was now obliged to deny the presence of an extrauterine gestation. I was convinced the patient was pregnant, and it was clearly impossible to say that the pregnancy was not uterine. The findings, of course, absolutely contra-indicated resort to the sound, nor, at the time, in the face of what my hands told me, did I even think of that instrument. I was fully prepared with my diagnosis, and

this was agreed in by all the gentlemen present, some of whom, if years and extent of practice go for anything, were fairly entitled to be called experts. The only difference of opinion was in regard to the "lump" in the left side. One or two gentlemen considered it the head, but, to me, neither in outline nor in touch did it resemble this fetal part. The diagnosis I reached and entered in the records was: Gravidity at about the ninth lunar month. Transverse position, dorso-posterior, presentation of left thorax, shoulder projecting at about left anterior superior spine. Fetus, in all probability, alive. Probable placenta previa. I told the patient that the condition of things as I found them compelled me to doubt her statement in regard to prolonged gestation, and that I believed she would be delivered in the course of three or four weeks.

Exactly two months afterwards, I saw the patient at her home by request of Dr. Burnett, for she had not been confined in accordance with my prediction. On my way to the house, Dr. Burnett briefly sketched the history of the patient, as he was familiar with it before sending her to me; and he has recently been kind enough to write it for me when I expressed my desire to report the case. Had I known, when I first saw the patient, what he tells me in his note, which I append below, *possibly* (I say possibly, for the physical signs as I made them out were very convincing) my diagnosis might have been modified.

LONG ISLAND CITY, October 26th, 1885.

Dr. E. H. Grandin.

MY DEAR DOCTOR:—Your note of the 23d received. . . . I can give you but a very imperfect history of the case, and that entirely from memory. When I sent Mrs. O'D. to you at the Polyclinic, I knew she was pregnant, but was in doubt as to whether, since I considered the fetus dead, I had better bring on labor or await further developments. For reasons of her own, she did not give you my message, but simply asked you to decide in regard to pregnancy. I was engaged to attend her in her confinement, which was expected about December 20th, 1884. I was called to see her a few days previous to that time, and found her having some pain, accompanied with a slight flow of blood. An examination revealed nothing to excite my suspicion that the pregnancy was in any way abnormal, except the slight discharge of blood, and I attached very little importance to that, because of its character and coming on so near her confinement. I prescribed an anodyne for what I supposed to be "false" pains, with instructions that I be sent for if the flow became excessive. I visited the patient on the following day, and found that the pains and discharge had ceased. I saw her two or three times within the next two or three weeks. I saw or heard nothing more of her for several months, and supposed she had sought other advice or had left the city. You may imagine my surprise when I was again called in the early part of June, and found my patient *in statu quo*, and giving a history of pains, and a slight show of

blood recurring at irregular intervals. Desiring counsel in the case, and she not having means to employ counsel to visit her at her home, by my advice she consulted you at the Polyclinic. As you are familiar with the subsequent history of the case, I will not attempt to recite it.

With kind regards, I am, etc.,

W. J. BURNETT.

With this additional information from a skilled accoucheur and gentleman of large experience, I again saw Mrs. O'D. She was confined to her bed on account of weakness, the result of a diarrhea which had lasted for some days. On questioning her I learned that on the 15th of July, one month from her visit at the Polyclinic, severe pains had set in, accompanied by considerable hemorrhage, lasting for several hours, and then dying away not to recur again. At the onset of the pains, in the absence of Dr. Burnett, she had sent for another physician who told her that labor was imminent. The next day the breasts filled with milk, which was secreted abundantly for twenty-four hours. On examining the abdomen, the conditions had entirely changed. The tumor had diminished at least one-third in size, and it was uniformly hard and dense. By the vagina, the cul-de-sacs were filled with plastic exudation, dissecting its way posteriorly to the bottom of Douglas' pouch. Examination by rectum was negative, except that its lumen was occluded by the same plastic mass. Dr. Burnett acquiescing, we determined to anesthetize the patient and detect, if possible, the position and condition of the uterus. Under chloroform nothing further was detected by palpation, but the uterine sound readily entered to the depth of two and a half inches, upward and to the left, *towards the site previously occupied by the "lump,"* which I had considered two months before to be the fetal shoulder. There was but one possible inference now, and this was that we had to deal with a peritonitis and cellulitis, the result of rupture of an extrauterine gestation sac. Although the patient's condition was not unfavorable—there was no hectic fever, and the diarrhea, although suggestive of sepsis, could be explained by the conditions present interfering with the rectum—the large exudation existing led us to fear eventual suppuration, and she was advised to enter Dr. Paul F. Mundé's service at the Mt. Sinai Hospital, there to be built up until such time as it was deemed advisable to operate, or it became necessary to do so. Accordingly, one week after my visit, she was admitted to the hospital, and Dr. Mundé being absent from the city delivering his course of lectures at Dartmouth, and therefore, although telegraphed for, unable to return, Dr. B. Scharlau, one of the visiting physicians, and by Dr. Mundé's request temporarily in charge of the latter's service, kindly took charge of her. On entrance, the exudation had already broken down, and suppuration had set in. The patient was septic, the mass in Douglas' cul-de-sac fluctuated, and it was, therefore, determined to resort to operation. With due antiseptic precautions, an incision

was made *per vaginam*, where fluctuation was most distinct, and fully a quart of fetid pus removed. The finger introduced through the opening entered an abscess-cavity which was demonstrated as connecting with the abdominal sac, but absolutely nothing could be felt by the finger except a loop which resembled the umbilical cord. The cavity was irrigated and dressed antiseptically. The patient, however, did not have the strength to tide over the suppurating process, but succumbed a few days after the operation to sepsis. Unfortunately, no autopsy could be obtained, but Dr. Schiff, the house surgeon, informs me that several fetal bones were secured.

The necessarily detailed history of this case precludes elaborate discussion. There are certain questions, however, on which I desire to dwell very briefly.

In the first place, when I saw this patient in June, was the fetus alive? The signs relied on as establishing the death of the fetus *in utero*, and I presume these same are in a measure of value where the fetus has developed within the abdominal cavity, are uniformly agreed upon as being: absence of the signs of fetal life; a decrease in size of uterine or abdominal tumor; breasts becoming flaccid and not secreting; deep color of vagina fading. In the present case we have the patient's statement, not alone to me, but also to Dr. Burnett, that she plainly felt fetal movements, the abdominal tumor had not decreased in the least, the breasts were in every particular similar to what we find in advanced gestation, the vaginal mucous membrane was deeply blue. All these signs point to a living fetus, and in favor of a dead fetus we have simply the fact that careful auscultation failed to reveal the fetal heart-beat. True enough, the patient's statement in regard to fetal movement may well be ruled out, owing to her liability to be deceived by other causes, notably intestinal flatus, and the discoloration of the vagina, being simply a sign of congestion sufficiently accounted for by the pressure of the abdominal tumor on the blood-vessels, is purely negative evidence. But it is more difficult to account for the elastic distention of the abdomen and the mammary signs, particularly when we remember that not until one month after, in July, was a vigorous attempt at labor made, and that then the breasts secreted freely for a few hours before becoming flaccid, and the abdomen notably decreased in size. It would appear indeed as if the fetus died in July, and yet, if this be granted, we are asked to believe that an extrauterine fetus may live and thrive in the abdominal cavity seven months, at least,

beyond the normal term of gestation. Such a belief is so highly improbable that I am inclined to reject it, although there are a number of cases on record where the fetus has apparently thus continued to grow. Cazeaux,¹ for instance, mentions as authentic the case of a lady "who, in all probability, carried an extrauterine fetus, whose motions were perceived clearly" by several physicians, for seven months after term. Lusk² concedes the possibility of the fetus continuing to develop within the abdomen—he does not say for how long—after term. These are the cases of so-called secondary abdominal pregnancies, where the sac and the membranes rupture, and the fetus passes into the abdominal cavity, and the like are recorded by Walter, Patuna, and Bandl.³ Schroeder, however, does not credit such cases, for he says,⁴ "It is not probable that the fetus should be alive more than ten months in the abdomen of the mother; nor has it been proved by any reliable observation." Playfair,⁵ on the other hand, is in agreement with Lusk, for he says, "occasionally the fetus has apparently lived a considerable time, in some cases even for several months, after the natural limit of pregnancy has been reached." Without quoting further authorities, in view of the difference of opinion evidently existing, I make no attempt to answer the question in the present case, contenting myself with the remark that the signs pointed to the life of the fetus as strongly as they ever can without the confirmatory evidence of the fetal heart.

A further question is: Was this a case of primary (in its broad sense) abdominal gestation, or did the uterus rupture in December and allow the escape of the fetus? Referring back to Dr. Burnett's letter, we find that, when summoned to the patient, she was complaining of "some pain" and of slight discharge, and that an examination revealed nothing to excite his suspicion that the gestation was abnormal. Here are none of the symptoms which point to rupture of the uterus—no collapse, no profuse hemorrhage, no intense pain, and at no time previously is there any history which might suggest such an accident. We are forced, hence, to the belief that Dr. Burnett erred in diagnosis in December, even as I did in June, and it is

¹ L. c., p. 596.

² L. c., p. 316.

³ Billroth's "*Handbuch der Frauenkrank.*" (article by Bandl).

⁴ L. c. p. 132.

⁵ L. c., p. 175.

a satisfaction to be mistaken in such good company in regard to an eminently obscure case. Having to deal, therefore, with an abdominal fetation from the outset, when was the attempt at labor made? Prior to July there is absolutely no history of pseudo-labor. At this time the patient suffered from severe pain for several hours, there was considerable hemorrhage, a physician saw her and pronounced her in labor. A few days afterwards, the breasts filled with milk and secreted plentifully. Such is the usual course of events in ectopic gestation, and it is during this attempt at labor that rupture often occurs. And so it was with my patient in July, curiously enough at the very date when I had supposed normal labor would set in.

Still another question is: Why any mistake in diagnosis? Why was not the diagnosis of extrauterine gestation reached? It is an easy matter to criticise, and one reason which has urged me to report this case was that it might be criticised, in the hope of obtaining some certain diagnostic sign in just such obscure cases as the present. It goes without saying that it is infinitely more pleasant to report a case wherein brilliancy of diagnosis is exemplified, but it is from the errors of some that others learn, and I have at least the satisfaction of knowing that I am by no means the first who has similarly erred, because the signs of pregnancy were positive, and the uterus could not, by all methods of examination, except the radical, be differentiated. Whilst certain points in the history—the irregular hemorrhages, the intermittent attacks of pain—spoke in favor of abdominal gestation, and at once suggested such a possibility to my mind, and strongly so (for I naturally would have been delighted to meet with, and correctly diagnose a case of the kind), the physical examination completely negatived such a possibility, and revealed clearly the signs which I knew accompanied cases where the fetus lay transversely within the uterus. Obviously, from what has gone before, had I appreciated the value of evidence yielded, in particular, by absence of intermittent uterine contractions, I might have been as positive in regard to ectopic gestation, as, without this sign in mind, I was in regard to uterine gestation. It may be said in criticism, that the “lump,” so often referred to, should have suggested the uterus. In the light of the information revealed to me in August by the sound, I now believe this to have been the uterus, but in June it resembled rather the fetal shoulder, in

outline and in touch, than a uterine body hypertrophied as we know this organ to be in the presence of ectopic gestation. And further, this "lump" did not give the impression of a body lying outside the abdominal tumor, but as one within it, neither did pressure upon it affect what there was of a cervix any more than pressure at any other region of the abdomen. The cervical signs were again abnormal to a degree, but we all know how variable these signs are, and I explained them as follows: The position of the cervix—high up and to the left—was simply the natural result of the uterine obliquity I was presumably dealing with, for I considered the fundus to be deviated to the right from the weight of the fetal breech in the right uterine segment. The marked shortening of the vaginal portion of the cervix did not arouse my suspicions, because an alternative suggested by the history was low implantation of the placenta, which condition the boggyiness around the os also suggested. The cartilaginous feel of the external os I considered simply an anomaly, for there are cases where even the influence of pregnancy fails to soften a markedly rigid os. I believe, therefore, that the diagnosis reached in June, in face of the evidence which I had, and without bearing in mind the value of rhythmic uterine contractions in differential diagnosis, was the only possible diagnosis. Now I know that if the "lump" were the uterus, the cervix had simply been drawn up and pressed against the pubes, in the course of the growth of the abdominal gestation cyst.

And now, was the ultimate issue of this case affected by the fact that I did not reach a correct diagnosis until after rupture had occurred? Had a correct diagnosis been made in December, when the fetus was alive, in accordance with the weight of authority to-day, laparotomy could have been performed with strong probability of saving both the mother and the child. In June, however, the evidence pointed to death of the fetus, and, in such an event, the rule in abdominal gestation is, not to interfere until symptoms supervene, the object of delay being to give the placental vessels a chance to atrophy, and thus secure the mother against the likelihood of profuse hemorrhage when an operation becomes indicated. The latest,¹ and, indeed, the highest, authority, from his exceptionally large experience, on the subject of the treatment of extra-

¹ T. Gaillard Thomas: "Extrauterine Pregnancy," p. 181.

uterine gestation, thus expresses himself in the ninth volume of the "Transactions of the Am. Gyn. Society," after relating the history of a case where the fetus was carried three months beyond term: "I think that all will agree with me that the delay of three months which was decided upon, after full gestation had been reached, greatly enhanced the patient's chances of life. Had I been called upon to deal with so large a placenta, so peculiarly attached, and in the full tide of its circulating activity, I have no doubt whatever I would have lost my patient from immediate hemorrhage." And again, in the course of the discussion on his paper, he thus formulates his practice in cases of the kind: "If there is a living child in the abdomen, remove it at the end of the ninth month. The life of the child should be saved at the expense of increased risk to the mother. . . . If the child is living, I should operate at the end of the ninth month; if the child is dead, I should wait for the shrivelling of the placenta, unless unfavorable symptoms developed demanding interference." Lusk,¹ in his excellent statement of the treatment of extrauterine pregnancy, in speaking of the primary operation, says: "If we accept Parry's statement as approximately correct—that in 499 cases of extrauterine pregnancy, including 174 cases of ruptured cyst, the mortality was 67.2 per cent—it is evident that much remains to be done in the way of perfecting the primary operation before its admissibility, except under desperate conditions, can be recognized. In ten cases reported by Litzmann, only four children survived the third day. The unavoidable source of danger in the primary operation lies in the impossibility of removing the placenta, owing to the absence of any physiological contrivance to check hemorrhage from the maternal vessels. Even when the placenta is left *in situ*, fatal hemorrhages may occur during the process of its elimination. Again, in the proportion of one case to six, the placenta has been found in the line of the abdominal incision." It is apparent from these extracts that, whilst primary laparotomy may be considered justifiable, non-interference should be the rule after the death of the fetus, until symptoms call for action. I might seek, and readily obtain, further authority for my belief that my patient's life was not shortened through my error in diagnosis. At no time up to July 15th were there any urgent symptoms in her case, and from those occurring at this

¹ "Science and Art of Midwifery," p. 323.

date she rallied well, as witness the fact that her condition was scarcely at all impaired when I saw her one month afterwards; at no time, therefore, was laparotomy indicated whilst she was under my observation.

The last question I wish to touch upon is a delicate one, for the reason that I may seem to criticise unfavorably the management of this case after admission to the hospital. Criticism of this nature is very far from my wish or intention. I recognize that, in making an incision *per vaginam*, the operator followed an authoritative rule, for it was in this locality that fluctuation was most marked. But has not the day arrived when this rule has ceased to be always authoritative in, and uniformly applicable to abdominal surgery? In order to avoid, however, all semblance of criticism of this particular case, and yet in order to obtain an expression of opinion in regard to the surgical treatment preferably applicable to similar cases, let us suppose a case of abdominal gestation where the fetus lies transversely, and where, the time for primary laparotomy having passed, the sac has ruptured, a large plastic exudation been thrown around it, suppuration has set in as evidenced by slight fluctuation posteriorly to the uterus, and the temperature and the appearance of the patient suggest beginning sepsis. What should be done? Should a free opening be made *per vaginam*, or should laparotomy be resorted to? The condition present is a double one—both abdominal and pelvic abscess. The clear rule is to get rid of the pus at once, and establish free drainage of the sac. Nature will do this, after her crude fashion, if we give her time, but it is generally agreed that her process is both tedious and exhausting, and usually, says Schroeder,¹ “death takes place, during the suppuration, either from exhaustion or blood poisoning.” The surgeon, therefore, aims at assisting nature, and he makes his incision earlier, and takes steps to drain to better advantage. If he has to deal with a pelvic abscess alone, he opens where the pus is pointing, and places his drainage-tube so that the sac may not only empty itself thoroughly, but also so that the sac may be washed out and kept clean whilst healing. Suppose, however, he is dealing with a case similar to the ideal case I have outlined. Here is not only pus to be evacuated, but also foreign bodies (the fetal parts), which are constant irritants, and, therefore, constant sources of fresh pus and of fresh sepsis,

¹ Loc. cit., p. 135.

as long as they are allowed to remain. Now incision *per vaginam* will reach the pus, but cannot reach the fetal parts. These must needs come away piecemeal, even as where nature establishes an outlet—"a tedious and exhausting process, under which death usually takes place either from exhaustion or blood poisoning." The surgeon, therefore, should make his incision at a point where not alone the pus, but the fetal parts as well may be removed, and this is through the abdomen. The sac may be better cleansed, free drainage established through a counter incision in Douglas' cul-de-sac, and, above all, repeated absorption of putrid matter is at once prevented. Now what objection, if any, is there to abdominal section in these cases? None, I confess, that I can see. The patient, I have supposed, is already septic, and therefore, it may be said, she cannot stand the shock of such a major operation as laparotomy. Can she stand any better, I would ask, the "tedious and exhausting" process necessitated by incision *per vaginam*? Is the shock from laparotomy under the supposed conditions after all so great? For we must remember that we are not dealing with a new peritoneum, so to speak, but with a peritoneum the endurance of which has been severely put to the test for months. Under the circumstances, and after careful weighing of the arguments *pro* and *con.*, I would plead for laparotomy in these cases. Lusk¹ tells us: "During the last decade, the success of secondary laparotomy, as distinguished from that performed during the life of the fetus on the one hand, and simple incisions designed to enlarge fistulous openings on the other, has been such as to warrant its being placed in the category of justifiable operative procedures. In thirty-three cases collected by Litzmann (twenty-four between 1870 and 1880), there were nineteen recoveries. Of the two dangers inherent to the primary operation, hemorrhage and septicemia, the former is greatly lessened by the cessation of the fetal circulation, and by the gradual thrombosis and obliteration of the maternal vessels, and the cutting off of the blood supplies to the placenta." It may be said, however, that, in the case I have supposed, whilst the danger from hemorrhage during laparotomy would be slight, the operation would avail nothing in the presence of sepsis. To such as own to this belief I would recall a case recorded² by

¹ Loc. cit., p. 325.

² Trans. Obst. Soc. of London, 1883.

Meadows, of London, where a fetus was successfully removed by abdominal section from a suppurating abdominal cyst, this fetus having been carried six months beyond the normal term of gestation; I would recall a case recorded by Thomas¹, of which he says: "The constitutional state of the patient was so much depreciated that for some time after her entrance into the hospital I was afraid to operate, and when I did so I felt almost hopeless of a successful result." His patient recovered, however, although he removed the remains of a full-grown degenerated fetus. And further, what do they say, who, from personal experience and study, are entitled to speak authoritatively, should be the treatment of cases similar to the ideal one I have outlined? Lawson Tait says² that "vaginotomy should always give place to abdominal section, as being more scientific and less risky." Prof. W. A. Freund says³: "When the fetus has died spontaneously—if there were no reaction I would wait; if there were peritonitis I would treat the symptoms, and then operate as in circumscribed exudation—that is, open, evacuate, and drain. . . . When local and general symptoms of reaction appear, *especially those of general infection* (italics mine), I would do laparotomy." Parry, whose opinion is entitled to great weight, since he has conscientiously studied five hundred cases of extrauterine pregnancy in the preparation of his book, says,⁴ speaking of opening through the vagina, "If this operation is resorted to, it should be confined to cases in which some portion of the child, and especially the head, presents in the pelvis;" and again he says,⁵ "If *septicemia, peritonitis, or exhaustion endangering life* (italics mine), or rupture of the cyst should supervene, gastrotomy is indicated." According to the same authority, the mortality following the vaginal operation (primary and secondary combined) is 60%, which is a higher percentage than where the cases are left to nature's eliminative efforts—52.65%, and higher still than the mortality following secondary laparotomy, which varies from 15.7% (according to Keller⁶) to 38.88% (according to Parry). Parry's summary of cases is com-

¹ Loc. cit., p. 325.

² Med. Times and Gazette, August 2d, 1873.

³ Trans. Edinburgh Obst. Society, vol. viii.

⁴ "Extrauterine Pregnancy," p. 259.

⁵ Loc. cit., p. 261.

⁶ Billroth's "Handbuch der Frauenkrankh." Part V., p. 90. 19 cases second. laparot., with three deaths.

plete up to 1875. Deschamps, in his thesis¹ for the doctorate, has collected 114 additional cases of extrauterine pregnancy, reported between 1875 and 1880. The conclusion he reaches from a study of these cases is: "If the fetus be small and situated in the pelvic cavity, if the posterior cul-de-sac is filled by the tumor, incision by the vagina may be resorted to. Otherwise, laparotomy should be performed, and usually this operation is indicated" (p. 123). Of these 114 cases, 59 went beyond term, and the course of events was the following:

In 11 cases	lithopedion or encystment.
In 19 "	opening into rectum with 8 deaths.
In 3 " "	" vagina " 1 death.
In 1 case " "	" uterus " 1 death.
In 5 cases " "	at umbilicus (3 secondary laparot.) with 0 deaths.
In 2 " "	opening into bladder with 2 recoveries.
In 18 " "	secondary laparot. with 4 deaths.

The general conclusion to be drawn from Deschamps' figures are: *When Nature establishes an outlet in the abdominal wall, the patient is more likely to recover than when she establishes an outlet elsewhere; and thus she endeavors to teach us the point at which incision should by preference be made.* Of the elyotomies included in these figures, the cases recovered, but in one case, Schmitt's, where the opening was spontaneous, the fetus could not be extracted. The mortality from the secondary laparotomies is only 22.3%, a slightly higher rate than Keller's, but better than Parry's.

Such then are the figures prior to 1880. Since this date, operators have grown bolder and proportionately more skilled; the value of cleanliness, not to speak of antiseptics, has become more widely disseminated; the technique of laparotomy has been, in many minor details, improved. We, therefore, to-day have the right to expect even better results, and I, hence, reiterate my belief that laparotomy, and not vaginal incision, should be the operation of choice in the cases I am considering, in the face even of a prognosis so ominous against the recovery of the unfortunate patient.

¹ "Thèse pour le doctorat en Médecine," par B. Deschamps. March, 1880.

A CASE OF TUBERCULOSIS OF THE UTERUS WITH SPECIAL INVOLVEMENT OF THE PELVIC PERITONEUM.

BY

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ALTHOUGH tuberculosis of the uterus cannot be regarded as a very rare pathological process, this case is of special interest from the condition of the pelvic peritoneum which accompanied it.

A. H., colored, æt. 21 years, was admitted into Bay View Hospital on May 25th, 1885, with a well-marked tuberculous history. She had been a prostitute for several years past, and was addicted to the dissipation of her class. There was no history of a tuberculous inheritance, and her whole trouble began with a severe cold in November last, which gradually became worse, and was accompanied with fever and night sweats. At the latter part of her illness she was much troubled with a leucorrhæal discharge. She had given birth to one still-born child several months previously. Physical examination of her chest, at the date of her admission, showed evidence of softening and breaking down at the apices of the lungs. She rapidly became worse, and on July 1st, an examination revealed the presence of cavities in both lungs. Obstinate diarrhea was present for ten days before her death, which took place on August 10th, 1885. The autopsy, made a few hours after death, revealed the following:

Body small, slightly built, emaciated and anemic. The meninges and brain pale. The mucous membrane of the larynx, pharynx, trachea, and esophagus normal. The mediastinal lymph glands and bronchial glands enlarged and caseous. Both lungs adherent to the pleura at the apices and posteriorly. In the apex of each lung was a large, ragged, tuberculous cavity, and elsewhere in the lungs numerous small cavities and areas of caseous consolidation. In each pleural cavity there was a considerable amount of clear serum, and on both the parietal and pulmonary pleuræ numerous miliary tubercles. The pericardial cavity contained several ounces of clear fluid. Heart small, valves normal. Liver, spleen, and kidneys amyloid. In the liver, a few miliary tubercles were found. The intestines, in some places, were adherent. In the omentum and elsewhere on the peritoneum were large, caseous nodules. Some of these nodules were formed by a conglomeration of miliary tubercles, others were single. The pelvic

peritoneum was very much thickened, and contained numerous irregular tubercle nodules of various sizes. The thickened peritoneum passing over the uterus and bladder had united and adhered to the peritoneum over the rectum, and in this way a sac was formed which occupied the space known as Douglas' cul-de-sac. This sac contained about twelve ounces of thin purulent fluid. On raising the small intestine, and looking into the pelvic cavity, it seemed as though a distinct roof was formed over it, on which the intestines rested. The uterus was verted sharply to the right side. The cavity of the fundus was slightly dilated, and contained a small amount of caseous material. The entire mucous membrane lining the cavity of the fundus and the upper portion of the cervix was ulcerated. This ulcerated surface was irregular and caseous, and at numerous places miliary tubercles could be seen. The ovaries and Fallopian tubes were normal. The vagina was wide, and contained numerous erosions, which were covered with a thick, dense, diphtheritic membrane. In the lower portion of the rectum, just above the anus, was a large, circular ulcer with indurated edges. The ulcer was covered with a black, stinking, necrotic mass. The loss of substance occasioned by the ulcer was large and extended through into the vagina. The opening between the two was half an inch in diameter. In the vagina, the mucous membrane around this opening was ulcerated and covered with a diphtheritic membrane. The mucous membrane of the rectum and large intestine was very much thickened and hyperemic, and contained numerous ulcerations. The mucous membrane of the small intestine hyperemic. No alteration was found in the bladder, stomach, and other organs examined. Microscopic examination of the uterus showed a caseous inflammation, combined with miliary tubercles. In the caseous tissue and in the miliary tubercles, swarms of tubercle bacilli were found. Examination of the ulcers in the rectum revealed them also in large masses. The diphtheritic ulcerations in the vagina and recto-vaginal fistula were examined microscopically, but unfortunately the examination was not conducted with a view to the presence of tubercle bacilli. The diphtheritic patches in the vagina were found to consist of a necrosis of the mucous membrane, extending deeply down into the submucous tissue. Numerous micrococci and putrefaction bacteria were found in the necrosed tissue.

It is well known that, in the ordinary peritoneal tuberculosis, the part of the peritoneum which is first invaded, and on which the full stress of the pathological condition falls, is Douglas' cul-de-sac. This very fact can be taken as a proof of the non-soluble nature of the tuberculous virus; for it is here that all foreign solid matters gravitate, and the case would not be different were these insoluble particles tubercle bacilli. Along with the eruption of tubercle on the peritoneal surface, there is more or less inflammation, with formation of false membrane,

but it is extremely uncommon for tuberculous inflammation here to lead to this sacculated condition. In this case, this sac might have led to various errors of diagnosis. It might have been mistaken for pelvic abscess, ovarian cyst, etc. In a former communication on the subject (*Med. News*, Jan. 3d, 1885), the writer shows that in nearly all cases of uterine tuberculosis, infection took place from the peritoneal cavity. This is evident from the tuberculosis of the Fallopian tubes, which almost always accompanied the uterine affection. In this case the Fallopian tubes were not affected. It seems probable to the writer that, the rectum being affected and containing large masses of bacilli, the affection of the uterus might have resulted from the entry of these organisms through the extensive recto-vaginal fistula into the vagina, and thence into the uterus. Cohnheim was the first to speak of the possibility of the tuberculous virus being transmitted by coition, and a tuberculosis of the genitalia so produced, and several cases have lately been reported in which it seemed possible that such was the case. In the case under consideration, there was every opportunity given for the entry of bacilli into the vagina. The diphtheritic patches in the vagina were most probably caused by contact with the infectious necrotic material from the fistula. A similar condition is sometimes found in carcinoma of the uterus, where the discharge is of a highly acrid and putrid character.

TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF NEW YORK.

REPORTED BY THE SECRETARY, DR. H. C. COE.

Stated Meeting, January 5th, 1886.

The President, DR. PAUL F. MUNDÉ, in the Chair.

EPITHELIOMA OF THE BLADDER.

THE PRESIDENT exhibited the specimen, which he had removed from a woman 42 years of age, who entered Mt. Sinai Hospital a month before, complaining of painful micturition and hematuria. She said that two years before, Professor Tauber, of Pesth, had removed from her a tumor of the left ovary, the operation being a difficult one. From the length of the abdominal cicatrix it was evi-

dent that the tumor had been a large, and possibly a solid, one. Dr. Scharlau had seen the patient previous to her entrance. On making an examination, the President found a diffuse thickness all over the anterior vaginal wall. On passing a sound into the bladder, that viscus did not seem to be very large, but it evidently contained some foreign growth; the withdrawal of the instrument was followed by a gush of blood. A few days later, the urethra was dilated (by the gradual method), the index finger was introduced, and a soft, sessile tumor as large as an orange was felt occupying the base of the bladder. It broke down easily under the touch, and felt like an epithelioma. There was some thickening of the tissue around the bladder, but no distinct evidence that the disease had extended beyond the organ. Six or eight ounces of blood escaped from the urethra after the examination; the bladder was irrigated with a solution of hot vinegar, followed by one of boracic acid (one to one thousand). In order to avoid hemorrhage, it was decided to attempt the removal of the growth per urethram, instead of by vaginal cystotomy. The patient's temperature had been elevated ever since she entered the hospital; it never fell below 101° F., and was accompanied by a dry, furred tongue. On the day appointed for the operation, the thermometer registered 104°. The woman refused to have the operation then, but consented a week later. The urethra was dilated, and a mass of soft, friable material removed by means of the finger and Simon's curette, the bladder being subsequently washed out with a hot solution of vinegar and water (one part to three), followed by one of boracic acid. The President stated that the patient had been perfectly comfortable since the operation, the dysuria had disappeared, and there was no return of the septic symptoms. Portions of the growth were examined microscopically by Dr. Heitzmann, who pronounced it to be an epithelioma. The President said in conclusion that epithelioma of the bladder was a somewhat rare disease. According to Winckel's statistics, out of thirty-seven cases, thirty-three occurred in women, that is, it was eight times as common as in the male sex.

DR. BYRNE asked what advantage was gained by operating in such a case. Was it not better to let the patient alone, since the disease was sure to return in every instance?

DR. H. M. SIMS thought that, if the patient's life was prolonged and rendered more comfortable, the operation was justifiable.

DR. NOEGGERATH believed that the presence of decided septic symptoms constituted a sufficient reason for an operation. The operation was performed, he inferred, in order to eliminate the cause of the sepsis.

DR. MURRAY asked if Winckel's statistics referred to primary or secondary cancer.

THE PRESIDENT replied that of the thirty-seven cases only seven were examples of primary cancer, three being in men and four in women.

DR. NOEGGERATH thought that the operation might have been

made a more radical one, since the disease had not extended beyond the viscus. It might have been possible to remove a portion of the base of the bladder together with the tumor.

THE PRESIDENT answered Dr. Byrne's objection regarding the justifiability of the operation by stating that the septic symptoms were such that it was clearly necessary to remove the cause. These symptoms were relieved by the operation, the painful micturition was alleviated, and the patient was rendered much more comfortable than before. Indeed, all bladder symptoms were now absent. The results of the operation were certainly as good as those obtained in the operative treatment of cancer in other parts of the body. The infiltration felt on the left side of the bladder was such that it did not seem desirable to attempt the radical measure suggested by Dr. Noeggerath. It would have been necessary in this case to excise the entire base of the bladder.

A SPECIMEN OF SUPPOSED TUBAL PREGNANCY.

DR. HUNTER exhibited the specimen, and mentioned the following facts in connection with it: The patient from whom it was removed was a multipara, 30 years of age, who had entered the Woman's Hospital several weeks before, in an emaciated condition, suffering from severe abdominal pain. On examination, an obscure rounded mass was felt behind and to one side of the uterus. The patient's temperature ranged from 100.5° to 102° F. While waiting for an improvement in her condition, she had an attack of acute peritonitis, so that Dr. Hunter determined to operate at once. Previous to making the incision, he passed a sound into the uterus, which entered so far that he suspected that the wall of the organ had been perforated. There was a profuse hemorrhage on opening the abdomen. A mass as large as an orange was found adherent to the right horn of the uterus. As it was impossible to remove this mass, and an attempt to separate it led to alarming hemorrhage, it was decided to remove as much of the uterus as possible. A rubber cord was passed around the organ, and the body was removed with the tumor.

The patient was in a very bad condition at the time of the operation, and died thirty-six hours after, never having rallied. An examination of the specimen showed that the mass attached to the uterus was a collapsed cyst which was probably a tubal pregnancy that had ruptured. The tube was examined by Dr. Coe, and was found to be dilated, and its interior being covered by a thick spongy growth, easily detachable, which showed under the microscope chorionic villi. The sac contained a large blood-clot, but no fetus could be found; it had probably escaped into the abdominal cavity. The posterior wall of the horn of the uterus adjacent to the mass was much thinned, and the sound had passed through it at this point. Dr. Hunter remarked that the history of the patient, as obtained from her physician, gave no clue to her condition; there was simply pain and extreme emaciation. The sac had probably ruptured before the operation, and given rise to peritonitis.

A SPECIMEN OF SMALL OVARIAN CYST WITH PYO-SALPINX.

DR. HUNTER showed at the same time this specimen, which he had removed three days before from a patient who entered St. Elizabeth's Hospital, giving a history of severe pain before and during her periods, with a scanty flow. The diagnosis of ovarian and tubal disease was made, and an operation was advised. On opening the abdomen, the left ovary was found to be cystic, and the corresponding tube enlarged and filled with pus. They were firmly adherent to both the intestines and omentum, so that they were removed with great difficulty. The operation was a long one, and the hemorrhage from torn adhesions was profuse, so that the patient became extremely weak, and it appeared doubtful if she would leave the table alive. The pedicle was so short and broad that it could not be tied, so it was secured by a pair of long-handled compression-forceps, which were allowed to protrude from the lower angle of the wound, together with a glass drainage-tube. The patient rallied after the operation, and had done perfectly well, her temperature remaining below 100° F.

DR. MURRAY, in discussing the first case, referred to one in which a woman who was suffering from pelvic cellulitis was suddenly attacked with severe abdominal pain and symptoms of internal hemorrhage. Her abdomen was opened promptly, and it was found that the sac of an extrauterine pregnancy (of three months), which was situated behind the uterus, had ruptured. On account of the unusual situation of the sac, the diagnosis had been obscure.

DR. NOEGGERATH stated that it was sometimes possible to make the diagnosis of extrauterine pregnancy by scraping the interior of the uterus, and examining the scrapings for the large decidua cells which were so characteristic. If these were found, one could be sure of the existence of extrauterine pregnancy.

DR. GRANDIN did not believe that a positive diagnosis of ectopic pregnancy could be made before the fourth month. After that time, the presence of spasmodic pains in the abdomen, and the absence of rhythmical contractions of the uterus would justify the physician in passing a sound, and settling the diagnosis. When the sac lay behind the uterus, it was always possible to examine per rectum. The only tumor liable to be mistaken for a retro-uterine sac was a small ovarian cyst. An ectopic gestation was recognized more easily, the speaker thought, when it lay behind the uterus than when it was on one side of the organ.

The PRESIDENT thought that the absence of pulsations in a retro-uterine cyst would favor the idea that it was a small ovarian cyst. In regard to the second case reported by Dr. Hunter, the President thought that it opened up the subject of early ovariectomy, upon which he asked for a general expression of opinion.

DR. SIMS believed that the earlier an ovarian tumor could be diagnosed, and an operation performed, the better were the chances of the patient's recovery. He thought that the success of British ovariectomists was due largely to the fact that they operated early.

DR. HUNTER thought that the removal of the cyst in his case

would have been much easier if it had been accomplished before peritonitis occurred.

DR. NOEGGERATH maintained that patients could often be cured by tapping cysts, when they were small, with a hypodermic needle. He had tapped several cysts in this way per vaginam, and never had any septic trouble save in one case. When the patient could not be placed under the care of a skilled operator, it was often better to resort to simpler treatment first.

The PRESIDENT asked for particulars as to Dr. Noeggerath's method of tapping small ovarian cysts.

DR. NOEGGERATH replied that, if a cyst was situated in Douglas' pouch, he tapped it through the posterior fornix; if it lay above or in front of the uterus, it was better to aspirate it through the abdominal wall.

DR. HUNTER asked if tapping was not frequently as dangerous as a radical operation.

DR. NOEGGERATH replied that it was, if the operation was not perfectly aseptic.

DR. HUNTER said that he had seen very serious results follow aspiration for diagnostic purposes.

DR. NOEGGERATH explained that he alluded to complete, and not partial, evacuation of cysts. In small cysts, the fluid was generally clear, and of a serous, non-irritating character.

DR. HUNTER asked if it was not somewhat unusual to meet with cysts which could be completely emptied by the needle.

DR. NOEGGERATH did not think so.

The PRESIDENT recalled a case in which he had ruptured a small cyst while making a vaginal examination, no evil results following the accident. In another instance, he tapped a small cyst per vaginam, and a violent attack of peritonitis resulted. He thought that if a cyst was adherent, it was perfectly safe to evacuate it in this way; but if it was movable, the operation of tapping was dangerous, and it was preferable to open the cyst freely, and to drain it. He did not wish to have it placed on record that the Fellows of the Society advocated the early removal of *diminutive* cysts which gave rise to *no symptoms whatever*.

DR. HUNTER believed that it was good surgery to remove an ovarian cyst as soon as it was clearly recognized as such.

DR. NOEGGERATH agreed with the last speaker, provided that the operation was performed by a skilful hand.

DR. GRANDIN did not see what could be gained in these cases by waiting until the cyst increased in size. He asked if Dr. Noeggerath advocated tapping through the abdominal wall.

DR. NOEGGERATH said that he did, provided that the cyst could be felt distinctly through the wall.

THE PRESIDENT did not favor aspiration until after the patient was on the operating table, or the cyst had been exposed during ovariectomy. He said that cystic ovaries were frequently discovered during vaginal examinations, but these often gave rise to no symptoms, and did not increase in size for years, or give the slightest trouble. He was disposed to take a somewhat conservative view of the subject.

DR. HUNTER asked Dr. Noeggerath if he approved of aspirating a cyst which caused no symptoms.

DR. NOEGGERATH replied in the negative. He agreed with the President in believing that many cysts remained almost stationary. In one case he watched a cyst for sixteen years; it was originally

about the size and shape of a kidney, and refilled after being tapped. Such reniform cysts were usually of the multilocular variety and hence they refilled when tapped, because all of the loculi were not emptied. The round cysts were not so likely to refill.

DR. CLEVELAND asked if he understood Dr. Noeggerath to advise waiting for the appearance of symptoms before operating.

DR. NOEGGERATH said that he meant that, whether symptoms were present or not, he did not approve of removing the cyst in every case.

THE PRESIDENT said that some judgment must be exercised in the selection of cases for operation.

DR. BYRNE did not believe that every woman with a tumor was a subject for an operation. Two patients of his had had small ovarian cysts for fifteen years, yet they had no special symptoms, and consequently he did not urge an operation.

DR. NOEGGERATH thought that it was very desirable to have the statistics of New York laparotomists; they had never been presented in any very large number.

DR. HUNTER believed that a woman who had an ovarian tumor was in a precarious condition, since such a tumor would certainly increase in size, and the patient was always liable to attacks of peritonitis.

DR. NOEGGERATH insisted that, if this principle was applied, every woman's ovaries would be in danger of removal.

VENTRAL HERNIA FOLLOWING LAPAROTOMY—OPERATION—CURE.

DR. H. M. SIMS reported the case of a lady, 28 years of age, who had suffered from severe dysmenorrhea, and subsequently from periodical attacks of hystero-epilepsy. On examining her under ether (as she was very fat), he discovered a cystic ovary on the right side, and advised an operation. This was performed successfully two years before, the operation being complicated by the presence of a layer of adipose in the abdominal wall, at least four inches thick. A large mural abscess retarded her recovery, but this finally healed, and she was completely relieved of both the dysmenorrhea and epilepsy. She was instructed to wear an abdominal supporter constantly, and to avoid undue exertion. A year after the operation she reported to Dr. Sims with a small ventral hernia in the line of the incision. He fitted a pad, but the patient was very careless, and as a result she developed an enormous hernia, for which she sought relief six weeks before.

She had a great deal of pain and discomfort, and all palliative means had been tried in vain. Dr. Sims finally resolved to attempt a radical cure of the trouble and opened the abdomen. He found a hernial ring ten inches in circumference; within the sac was a mass of intestine that had become firmly matted together, so that it was necessary to tear it away. The operation lasted four hours and seventeen minutes, as many as one hundred and fifty bleeding points being tied. An elliptical piece of skin was excised and the edges of the peritoneum united by Lambert's suture; the muscles and fascia were then brought together separately with

catgut and silver wire. The patient made a perfect recovery, the wound healing well, except at the lower angle, where three stitches gave way, so that it closed by granulation.

DR. HUNTER thought that Dr. Sims' success would encourage surgeons to attempt the cure of such obstinate cases.

DR. NOEGGERATH said that ventral hernia after laparotomy was not a very uncommon accident, and that there were many cases on record. He thought that it was possible to guard against this complication by uniting the muscles separately. When the abdominal parietes were very thick, it was even advisable to unite the peritoneum, fascia, and muscles by separate sets of sutures.

Stated Meeting, January 19th, 1886.

The President, DR. PAUL F. MUNDÉ, in the Chair.

A MODIFICATION OF ERICH'S SELF-RETAINING SPECULUM.

DR. HANKS exhibited a self-retaining speculum which he had devised, and described its advantages over other similar instruments. He said that he had used Erich's speculum or some modification constantly since its first appearance, believing that its principle was the correct one, but it has frequently failed to accomplish the purpose designed, and sometimes caused much pain to the patient because the pad which rested against the lower end of the sacrum was so near to the tip of the blade that, when the latter was in position, the pressure upon the coccyx was too great. The fulcrum being of cold metal caused an unpleasant sensation when it touched the patient's skin. The short arm of the lever in the speaker's instrument was an inch shorter than in Erich's, the result attained by this change being this, viz.: that the perineum was retracted as perfectly as could be expected without a nurse. Instead of the large strap usually attached to self-retaining specula, the speaker employed a small tape or leather band, which fitted around the patient's neck, and was readily adjusted. The blade and lever could be separated, the joint between them being similar to that of surgical scissors.

DR. GRANDIN asked how much time was required to apply the instrument in office practice.

DR. HANKS replied that it could be arranged in a few seconds, almost as rapidly, in fact, as the ordinary Sims' speculum.

DR. GRANDIN spoke highly of Mann's modification of Thomas' self-retaining speculum, which he (Dr. Grandin) had improved by adding a flange to the upper blade, as introduced by Dr. Mundé. The speaker said that he had been able, with this speculum, to perform all of the ordinary manipulations in minor gynecology unassisted by a nurse.

DR. HANKS asked if the instrument to which Dr. Grandin referred was not really retained in position in a similar manner to a bivalve speculum.

DR. GRANDIN replied that the depressor could not be compared

to one blade of a bivalve speculum, as it did not interfere in any way with the surgeon's manipulations. This was the principal objection to be urged against this variety of specula.

THE PRESIDENT asked Dr. Grandin if the speculum described by him could be kept in position without using the left hand.

DR. GRANDIN said that the instrument was perfectly self-retaining, so that he could use both hands for performing minor operations, replacing the uterus, making applications to the endometrium, etc. He had even been able to curette a retroflexed uterus through this speculum, which he considered a fair test of its usefulness.

THE PRESIDENT thought that the instrument referred to was not properly a self-retaining speculum, in the sense that it remained in position without support from the hand.

DR. COE said that the weak point in self-retaining specula of the pattern described by Dr. Grandin was, that, in a voluminous vagina with a well-marked cystocele, it was impossible to keep the depressor in position. The surgeon would arrange his instrument with some difficulty so as to expose the cervix, when a fold of the anterior vaginal wall would suddenly slip from beneath the depressor, and the parts were concealed again. No device had yet been found, he thought, by which the anterior wall could be perfectly retracted without the aid of the hand.

A SPECIMEN OF DERMOID CYST AND PYO-SALPINX REMOVED POST MORTEM.

DR. NILSEN showed the specimen, and related the following facts concerning the patient: She had been under treatment for two months on account of severe dysmenorrhea. The speaker was called to see her during an attack of acute peritonitis while she was menstruating and learned that she had for several years had similar attacks at each period, though less severe than this. On previous examination of her abdomen, he had detected in the right inguinal region a fluctuating tumor about the size of an orange. An operation for its removal had been proposed, but positively declined by both the patient and her husband. A prominent feature in the case was the presence of excessive menorrhagia, which left the woman completely exsanguinated after each menstrual period. About two weeks after she had recovered from the peritonitis, Dr. Nilsen determined to use the curette without delay, as he feared the result of a recurrence of the hemorrhage in her enfeebled condition. The instrument was passed into a uterus three and a half inches in depth, and was used carefully but thoroughly, a large quantity of fungosities being removed. The operation was performed on a Monday, and was so far from being followed by any immediate bad results that on the following Thursday the patient was up, and was able to go about the house. She began to menstruate on the following Saturday, the flow being attended with severe pain. On the next Tuesday, she sent for the speaker, who found her suffering from well-marked peritonitis. On making a bimanual examination, he could not find the tumor which he had detected at the former exami-

nation, and inferred that it must have ruptured. Laparotomy was again proposed and refused. Fluctuation being felt in the posterior fornix on the following day, an aspirator needle was introduced, and some four or five ounces of pus were removed; a free incision was then made, and the cavity was irrigated. The patient was already *in extremis*, and died the same night. A post-mortem, obtained with difficulty, showed a complete matting together of the pelvic organs, so that it was almost impossible to make out their relations. Adherent to the right broad ligament, there was a small dermoid cyst containing seven or eight long hairs. Both tubes were enlarged so as to form sacs, the right one having ruptured and discharged its purulent contents into the peritoneal cavity and the left one being torn during autopsy. The speaker felt uncertain as to how far the operation of curetting had contributed to the rupture of the tube; was it possible that the operation caused contractions of the uterus and tube, thus leading to the accident?

In reply to a question from the President, Dr. Nilsen said that he was sure that the pus removed through the needle had come from Douglas' pouch, and not directly from the tube. He called attention to the fact that the uterine orifice of the tube was abnormally large, so that it would have been possible for the contained pus to escape into the uterine cavity. He recalled a case in which he had made the diagnosis of pyo-salpinx, and the tumor had suddenly disappeared, a large amount of pus being simultaneously discharged from the uterus.

DR. HANKS said that he would have been unwilling to curette the uterus of a patient who presented such a history as the one reported. He made it a rule never to introduce a sound into a uterus within six weeks after the subsidence of an acute pelvic inflammation.

DR. JANVRIN said that he had seen several cases in which he was convinced that pus was discharged from a tube into the uterus. In one case (which he had reported at a previous meeting of the Society), this discharge of pus was noted on three separate occasions. He agreed with Dr. Hanks as to the danger of introducing instruments into the uterus within two or three months after the occurrence of an acute inflammation. In reply to a question from the President, he explained that he, of course, did not refer to those cases in which the evidences of peri-uterine inflammation had nearly or quite disappeared.

DR. LEE believed that the operation of curetting might be followed by peritonitis, by an extension of inflammation through the tubes. He did not believe that the mere presence of a pelvic tumor, even if it was thought to be a pyo-salpinx, contra-indicated this procedure. He thought that the diagnosis of pyo-salpinx before the abdomen had been opened was in nearly every instance well-nigh impossible.

DR. NILSEN said, in conclusion, that he had been extremely careful in using the curette. The operation was attended with absolutely no pain, and the patient had apparently recovered completely from it before the attack of peritonitis occurred. The wo-

man's condition was such that it seemed desirable that further loss of blood should be prevented.

A CASE OF TRACHEOTOMY—LOCAL APPLICATIONS OF PAPAYOTIN—RECOVERY.

DR. JACOBI stated that on January 1st he had been called in consultation to see a boy eighteen months old who was supposed to be suffering from croup. The speaker noted the presence of supra- and infra-clavicular and diaphragmatic recession, and confirmed the diagnosis, although there was no membrane visible in the throat, and the tonsils were only slightly reddened. The question arose whether the condition was one of catarrhal or membranous croup. There was a differential symptom present to which the speaker desired to call attention. When croup followed catarrhal laryngitis, there was always some elevation of temperature; but when no febrile rise could be detected and symptoms of croup were present, there must be membrane in the trachea. The anatomical explanation was that there was but an imperfect connection between the lymphatics of the larynx and those of the general system, so that morbid products were less likely to get into the circulation, and hence fever was absent. To express it briefly, if there was fever, the croup was of the catarrhal variety; if there was an absence of fever, it was membranous and danger must be apprehended. The speaker, of course, excepted those cases in which diphtheria was present at the same time. A diphtheritic inflammation might be very irregular in its manner of extension, skipping from the nose to the trachea without touching the larynx.

Returning to the case in point, Dr. Jacobi continued that he saw no indication for tracheotomy at his first visit, but was called in haste early in the evening, and then found that the child was suffering from marked dyspnea and was quite cyanotic, so that it was necessary to operate at once. The patient had done very well since the operation, although the symptoms were at first very alarming. On the second day there was an elevation of temperature, the dyspnea and cyanosis returned, and that "dry" respiration appeared, which is characteristic of a descending diphtheritic process. A quantity of false membrane was expelled from the tube, thus proving the correctness of the diagnosis. The speaker said that mercury had been administered from the first, according to the plan which he had proposed in a paper published two years before, and which had met with universal approval. He had not met with any of the gastro-intestinal disturbances which, in the opinion of Dr. A. H. Smith, constituted an argument against the use of the drug. In order to dissolve the membrane, papayotin was resorted to, the property of this substance being that it dissolved caseous matter when brought in contact with it, either in a test-tube or within the body. It was dissolved, or rather suspended, in water and glycerin, and was applied directly to the trachea, by pouring it

into the tube. Its action was most satisfactory; the membrane was rapidly dissolved, and the patient's life was undoubtedly saved. The tube had been removed five days before, and the patient was out of danger.

In reply to a question from Dr. Lee, the speaker said that a concentrated or saturated solution was employed. The drug was rather uncertain in its action because, as Rossbach had shown, there were so many inferior specimens in the market. The only way to insure its purity was to obtain it from some reliable firm. Many of the unsatisfactory results that had been reported were doubtless due to the use of impure samples.

DR. LEE said that he had, on four or five occasions, used a solution of papayotin in the form of a spray, with negative results. He thought that the case reported by Dr. Jacobi was a most conclusive one, since he had never seen a child recover after developing such serious symptoms as those described.

DR. JACOBI thought that the spray was of no value because the drug was so diluted when it reached the affected spot. It was necessary to apply it directly to the membrane.

In reply to a question from Dr. Hanks, the speaker said that in this case he began the administration of corrosive sublimate by giving one-fortieth of a grain every half-hour for six or eight hours; then it was given every hour for three or four days, with an intermission on the fifth day. During the last five or six days of administration it was repeated every two hours. In the course of two weeks the child must have taken between five and six grains. No constitutional symptoms were observed at any time. It was the speaker's practice to dissolve one grain of the drug in five ounces of water, and to add to each teaspoonful of this solution (containing one-fortieth of a grain of the sublimate) a table-spoonful of sweetened water.

DR. HANKS said that he had been better pleased with this drug in the treatment of croup than with any other, since his results had been highly satisfactory. He dissolved two grains of the mercury in twelve ounces of rose-water and four ounces of glycerin, and applied it in the form of a spray, the general effect being the same as when it was administered internally.

A RARE CASE OF MULTIPLE NEUROMATA FOLLOWING REMOVAL OF THE OVARIES FOR EPILEPSY.

DR. H. M. SIMS reported the following curious facts concerning a patient whose ovaries he had removed successfully in order to cure obstinate epileptic attacks. She was perfectly healthy until three years ago, when she was married, and returned from her wedding-tour a nervous wreck, suffering extremely from vaginismus. Her hymen was excised and she was somewhat improved. But an intractable ovarian neuralgia developed, and her condition became much worse. She became pregnant, and as her pregnancy advanced, her nervous excitement became more marked, and could not be relieved. Between the third and fourth month she was attacked with violent convulsions preceded by occipital pain. The seizures lasted from twenty to thirty minutes, the patient be-

ing extremely violent and frequently tearing out her hair. The convulsions became more frequent and violent as the pregnancy continued, until she had as many as three or four in a day. They could only be relieved by the prompt inhalation of nitrate of amyl. Her child was born in July, but the epileptic attacks did not cease. On examining the patient, when partially anesthetized with nitrous oxide gas, Dr. Sims detected a large and sensitive ovary. As all local treatment had been utterly ineffective, the speaker, with the concurrence of Dr. Lee, who had been called in consultation, advised laparotomy. The operation was performed in the usual manner, and both ovaries (which were enlarged and cystic) were removed without difficulty. The recovery was rapid. The pain and convulsions disappeared from the very day of the operation. The curious feature in the case was this, that after the wound had healed and the patient was able to sit up, she complained that she could not bear the weight of her clothes, and indicated a certain point on the abdomen as the seat of pain. On examination, a group of small nodules at some distance beneath the skin could be felt at the painful site. Crops of these nodules sprang up in different places until there were at least half a dozen groups of them. Vain attempts were made to dispel them by means of hypodermic injections of iodine. It was finally necessary to administer ether and to dissect out the nodules separately. They were situated in the midst of the adipose tissue, at least half an inch beneath the skin. Macroscopically they presented the appearance of little pellets of fat. When examined microscopically they showed nothing except masses of fat, in the centres of which were collections of what looked like cicatricial tissue inclosing nerve-filaments.

DR. JACOBI said that the case was a very interesting one. He had received sections of the nodules, but had not had time to examine them. He had looked up the literature of the subject, and had no doubt that these little tumors were neuromata. There were a few similar cases on record which had been collected in a monograph.¹ The phenomena observed in connection with the appearance of the nodules must certainly be explained by the supposition that nerve-twigs were included within them.

DR. SIMS said that the interesting point in the case was the sudden appearance of the nodules and their distribution in groups.

DR. COE criticised the term "cicatricial tissue" in Dr. Sims' description of the masses, as implying an inflammatory process. So-called neuromata rarely consisted entirely of nerve-tissue, as their name would imply, but of fibrous tissue, in which were nerve-endings. The curious bodies in the present instance were doubtless such pseudo-neuromata.

DR. LEE said that he had been struck with the strong neurotic tendency of the patient, when he first saw her in consultation. He had advised the operation because he felt that everything had

¹ Curvoisier, "Die Neurome," Basel, 1886, p. 82, where fifteen cases of genuine painful lipomata are mentioned, and p. 206, where amongst others Annandale is quoted (Brit. Med. Jour., Feb., 1868, p. 162).

been done in the way of palliative treatment, and that a radical measure was clearly justifiable. He had been rather surprised at the operation to see so little evidence of structural disease in the ovaries. He was convinced that the peculiar tumors which appeared in the abdominal wall must contain nerve-twigs, as the pain caused by them could not be explained in any other way. Dr. Jacobi asked if the ovaries were really diseased in this case. He said that it was important that every case in which normal ovaries were found at a laparotomy should be put on record. It was not enough to report successes—failures ought to be reported as well.

DR. SIMS explained that the right ovary was fairly normal, but that the left was enlarged and was filled with cysts.

THE PRESIDENT did not think that Dr. Jacobi meant to imply that the removal of normal ovaries was never justifiable, even when it was done with the distinct purpose of relieving certain symptoms.

DR. JACOBI replied that if a normal ovary was ever removed, it was certainly a mistake. If the pain in an ovary was such that this pain could be removed by some severe mental shock, it was unnecessary to extirpate the organ. Ovaries had as much right to exist in the body as in a jar.

THE PRESIDENT ventured to differ with the speaker. He thought that if normal ovaries were wantonly removed without any definite idea of the object to be effected by their removal, the operation was simply criminal. He contrasted two cases in which he had performed so-called normal ovariectomy on account of the supposed influence of the organs upon psycho-motor disturbances. In the first case, the ovaries were perfectly normal and were removed with a view to hastening the menopause and relieving severe dysmenorrhea. The operation was successful, but absolutely no relief from the psychical delusions was obtained, and the woman committed suicide some months after the operation. In the second case, the patient had been bed-ridden for eight years, was paralyzed in one leg, and had been under the care of a nervous specialist, who had diagnosed sclerosis of the cord. At each menstrual period, she suffered so much from pelvic pain, nausea and vomiting as to be practically miserable for three weeks out of every four. The ovaries were apparently normal, the left being merely prolapsed and very tender. She was seen by Dr. Emmet in consultation (who is certainly far from being an enthusiastic supporter of oöphorectomy), and that gentleman advised laparotomy as a last resort. A few days after the operation she began to move her paralyzed limb slightly. She rapidly recovered the use of it and learned to walk just like a child. Now (two years after the operation) she was able to attend to her domestic duties and to enjoy life. She had not menstruated again. This was another side of the picture.

DR. JACOBI said that he was glad to hear the President refer to this case as an "unusual" one.

DR. LEE agreed with Dr. Jacobi as to the impropriety of removing normal ovaries, but said that he did not believe that it was always possible to tell from the external appearance of an ovary whether it ought to be removed or not. He thought that the careful surgeon should err on the safe side and, if there was any doubt, he should not operate.

DR. JACOBI explained that in his remarks he had not referred to Dr. Sims' case in which operation was clearly indicated.

TRANSACTIONS OF THE OBSTETRICAL
SOCIETY OF PHILADELPHIA.

Stated Meeting, Thursday, December 3d, 1885.

The President, B. F. BAER, M.D., in the Chair.

SOME CAUSES OF TARDY FIRST STAGE OF LABOR AND THEIR TREATMENT.

BY ELLIOTT RICHARDSON, M.D.—The following cases have been of interest to me and I trust will be so to others. Most of them represent instances of certain forms of dystocia which are neither new nor very rare, and the treatment of which is often a matter of censure to the accoucheur.

Mrs. M., æt. 28 years, born in England, a very light blonde of more than medium height and apparently well formed, was taken in labor with her first child early in the morning of February 18th, 1883. Her previous history was uneventful in a clinical point of view, no evidence having been elicited of any protracted or violent illness or of hereditary taint of any kind. The pains were not at first severe, but became more so as the labor advanced. I saw her in the evening of the 18th, when I found the os dilated to about the size of a quarter of a dollar, thin but soft, and not sensitive to the touch. During the pains, the bag of waters, which was very small, seemed to press but slightly through the os. Through the membranes the presenting head was felt in an attitude of semi-extension, with the anterior fontanelle occupying nearly the centre of the field. The occiput was directed toward the left acetabulum. The presenting head was held at the superior strait and did not advance during a pain, but it so closely fitted the lower segment of the uterus as to completely separate the amniotic cavity above from that below and to prevent any addition being made to the small amount of liquor amnii contained in the bag of waters. Nor did the head show any disposition to become flexed either during a pain or its absence. Labor continued with moderate pains during the 19th and 20th with but little effect upon the os, so far as could be perceived by the touch, although it was evident that a very slow dilatation was being effected. The condition of the patient during this time remained good, and gave no occasion for anxiety or alarm. On the morning of the 21st, the fourth day of labor, however, symptoms of exhaustion became apparent. The pulse ran up to over one hundred per minute, and increased bodily heat was associated with a tendency to dryness of the mucous surfaces. Still but little progress had been made in accomplishing the dilatation of the os, which was at this time

opened to about the size of a half-dollar. It was still impossible, without artificial dilatation, to attempt either version or forceps delivery. The head had not advanced, and still plugged up the lower segment of the uterus as effectually as ever.

Two courses were open to me. One was to dilate the os artificially and apply forceps or turn; the other was to support the patient's strength by securing to her needed rest while at the same time promoting perfect relaxation of the soft parts, hoping that sufficient dilatation would, under this treatment, soon enable me to rupture the membranes, when the head, being exposed to pressure from the uterine contractions above it, would fairly engage and, it was hoped, descend through the os uteri and the superior strait. The latter course was chosen, and in order to carry out the treatment, a sixth of a grain of sulphate of morphine was given every four hours, while the severity of the pains was still further mitigated by inhalations of chloroform at the beginning of each pain. Under this treatment the general condition of the patient improved; she slept regularly between the pains, and in that way got much rest. By ten o'clock in the evening sufficient dilatation had been secured to justify me in rupturing the membranes, when the head descended, and soon the second stage of labor was established. This terminated successfully for both mother and child at about eleven o'clock that evening. Thus was the labor happily and safely concluded after a duration of about ninety hours, by the use of constitutional means alone. The external measurements of the pelvis, subsequently taken with care, showed the following dimensions:

Between ant.-sup. sp. process.....	8 $\frac{5}{8}$ inches
“ crests.....	10 $\frac{7}{8}$ “
External conjugate....	6 $\frac{1}{2}$ “
Real conjugate by inference.....	3 $\frac{1}{2}$ “

The relation of the measurements of the distances between crests and ant. sup. spi. processes precludes, almost to a certainty, the existence of a rachitic pelvis, and as all the measurements were somewhat below the normal, the small pelvis was probably one of those in which the sexual development of the pelvis was imperfect, that is, arrested in its progress. The attitude of partial extension observed in the fetal head, in the case just given, is explained by the fact that the extremities of the narrow conjugate diameter formed the points of resistance to the descent of the head, and as there would naturally offer much more obstruction to the descent of the greater diameters near the occipital extremity than to the narrower ones near the face, the latter extremity would of necessity descend first. In the last day of the labor I had the benefit of the advice of Dr. Albert H. Smith, who then, for the first time, saw the case with me.

On March 25th, 1885, I saw, in consultation with Dr. Hampton,

Mrs. M. in labor with her first child. She had been in labor for nearly twenty-four hours without making any great apparent progress. On examining, I found the os dilated to about the size of a half-dollar and presenting no abnormal condition. The bag of waters was small and did not seem to press with any force through the os during the pains. The head presented in the second position, and was held in a partially flexed attitude at the superior strait. The patient was much alarmed by the slow progress she was making, so that the pains were becoming very rapid without materially aiding in the advancement of the labor. The treatment adopted in this case was rest in bed, one-sixth grain of morphia every four hours, and inhalations of ether at the beginning of each pain. The membranes were ruptured as soon as a greater amount of dilatation had been secured, and twelve hours after I saw the case, she was safely delivered of a living child. No opportunity was afforded me to measure the pelvis after the termination of the labor. This case differs from the first in degree only, the nature of the impediments to the progress of the labor being the same. In both the dilating wedge usually afforded by the bag of waters was wanting, because the closely fitting head prevented access of any considerable amount of liquor amnii to that part of the amniotic cavity which was in advance of it, and the head itself did not advance because it was held at the brim of the pelvis by the narrow conjugate. While in normal labor, before the membranes are ruptured, all parts of the fetus are exposed to a like pressure because that pressure is communicated to it by the liquor amnii; when the head cannot advance, and at the same time prevents any part of the liquor amnii descending past it into the bag of waters, this equilibrium of pressure becomes destroyed, that part of the fetus which lies above the line of contact of the head with the uterine walls receiving the full force of the contractions of the uterine muscles, while that part which is below only receives the force of resistance offered by the cervix. Hence when the latter is soft and dilatable, a process of moulding or adaptation of the presenting part of the head occurs, during which the most depending part gradually approaches the os and tends to dilate it by affording that dilating wedge which is absent at an earlier period of the labor. When the head by this process approaches so close to the membrane closing the os as to exert considerable pressure upon the latter, all further moulding ceases, but at the same time dilatation of the os becomes more rapid, so that soon it will have progressed to a sufficient degree to justify rupture of the membranes. The effect of such rupture is to relieve the head of all impediment to the further progress of moulding and elongation. It is now thrust downward, and if the pelvic narrowing is not great, will soon pass through the brim and into the os. The latter, being exposed for the first time to the whole dilating power of the uterus, readily yields. The peculiarity of the first stage of labor

which, in all its important bearings upon the welfare of the woman and fetus widely distinguish it from the second stage, is that so long as the membranes are intact, the relations of the two beings to each other are precisely the same as those existing during the course of gestation, so that almost indefinite delay is perfectly consistent with the entire safety of both. Notwithstanding this fact, the first stage of labor is often a period of great danger to both. The danger to the mother is from exhaustion, and exceptionally from rupture of the uterus; that of the fetus is from asphyxia due to the too frequent or too powerful uterine contractions. The mother will only become exhausted when the pains become so frequent, so violent, or so long continued that she is not able to restore her strength from time to time by sleep and perfect rest between the pains. The same condition with regard to the nature of the pains, early rupture of the membranes, and probably some abnormal state of the tissues of the uterus, are essential to the production of rupture of that organ. The risk to the fetus is due to the same condition of the uterine contractions as those which impair the mother's strength, in which the time intervening between the pains is not sufficient for the removal of the vitiated blood from the maternal part of the placental circulation, and the supply of arterial blood in its place. In considering the relations of the woman and fetus to each other, and the nature of the dangers which threaten each in the first stage of labor, the indications for treatment might seem to be obvious. They are to preserve the proper strength and rhythm of the uterine contractions in order to secure needed rest to the mother, and sufficient regularity in the placental circulation to supply the fetus with enough oxygen for its preservation. When, therefore, it is obvious that from any cause the dilatation of the os uteri must be a prolonged process, we should take care to protect both the woman and the fetus from danger during its progress. Even weak uterine contractions may, by becoming nearly continuous, produce the dangers already alluded to and so, while endeavoring to strengthen them, care must be used to preserve their rhythm. In the cases which I have reported this principle was adopted in treatment. Nothing was done until the pains became abnormal in character, when the measures already detailed were instituted. In both cases morphia was used by the mouth; in one case inhalations of chloroform, in the other of ether, were used in conjunction with the opiate. In view of recent experiments, there can be no doubt that ether is the safer remedy of the two, and yet it possesses so many disadvantages when compared with chloroform, and the risk from the latter when carefully used in these cases, and in conjunction with the use of opium in some form is so slight, that it is a question in my mind whether we are not often justified in using chloroform in preference. During the first stage of labor, if no painful operation is to be performed, it is not necessary nor even desirable to pro-

duce complete unconsciousness. The anæsthetic is given to mitigate pain, not to entirely destroy the consciousness of it, and at the same time to prevent both mental and uterine irritability. Opium and chloroform supplement each other to a great extent, so that when the effects of the two are combined, a much smaller dose of each is required to produce a given effect than when either is used alone. This is not so with opium and ether, or to so slight an extent as to be almost inappreciable. While in a woman in labor who is under the moderate influence of opium, but a small amount of chloroform administered by inhalation is sufficient to give all the relief from pain needed, the quantity of ether to be used to produce the same beneficial effect will not be found to be less than when no opium has been given. The practical result of this relation of the remedies to each other is that in the former case the patient's suffering is relieved at once, while in the latter some time is required before any decided amelioration is experienced. In support of the above assertions I may be permitted to quote somewhat at length from the able paper of J. C. Reeve, M.D., of Dayton, O., which appeared in the *Amer. Jour. Med. Sci.*, for July, 1880. In the course of his review of Dr. Kappeler's book on anæsthetics, Dr. Reeve says: "The modification of the ordinary course of anæsthesia by the preliminary injection of morphia deserves attention. . . . It is claimed for this mixed narcosis that it is especially adapted to prolonged operations by rendering a far less quantity of chloroform necessary. The anæsthesia being continued with far less frequent repetition of inhalation, that the stage of excitement both muscular and mental is lessened, and that thereby the dangers of anæsthesia are diminished. Mollow, one of its enthusiastic advocates, goes further, and claims that the action of the morphia lessens irritability of the air passages, and so restrains reflex action upon the heart; that in this respect its effect is similar to division of the *par vagum*, also that the morphia in small doses increases the blood pressure by its action on the motor ganglia of the heart, and by its contraction of the peripheral vessels, thereby opposing the chief deleterious influence of chloroform from the beginning, by presenting an opposition which must be overcome before the vascular pressure can sink below the normal. As to the smaller quantity of chloroform necessary for a given length of anæsthesia, the less amount of muscular excitement and the modified mental condition, Dr. Kappeler says: 'the advantages have been on various sides clinically proved, and are only seldom called in question.' The advantages claimed by this method have been denied by Demarquay, but confirmed by Heitel, and in part by König. The latter does not, however, believe that the dangers from chloroform are at all diminished by the use of morphia. Dr. Reeve further stated that, 'none of the advantages of chloroform-morphia narcosis attach to ether-morphia narcosis,' and that Dr. Kappeler's 'experience . . . seems

to show that in all respects the combination is injurious rather than beneficial.' " Reference is made, in the paragraphs which I have quoted, to the use of the agents mentioned in surgery alone. They apply in the main to obstetrics as well, although I do not see any disadvantage in theory, nor have I in practice, in the ether-morphia narcosis as compared with ether narcosis alone. In comparing the effects of chloroform and ether in the first stage of labor, the former has, I believe, a decided advantage in its effects upon the os uteri in promoting relaxation. All the advantages above attached to it are at the same time coupled with its easy and pleasant administration. Against these, however, must be offset the danger from its use. Exactly how great this danger may be in careful hands cannot be told. In many cases of fatal chloroform poisoning, it has been the first few drops that have killed; in such cases, therefore, the diminished amount rendered necessary by the morphia previously given would be no safeguard. I believe, however, that the danger is so infinitely small when thus given that we are justified in using it in painful cases of labor, especially when the chief difficulty lies in the rigid condition of the cervix or other soft parts of the parturient canal, and that in such cases the use of morphia either by the mouth or hypodermically, in moderate doses, greatly facilitates the accomplishment of the end in view. At the same time I would not be understood as advising the use of chloroform instead of ether in ordinary cases of painful labor; since in these the only object is to relieve pain, ether answers the purpose, and, being the safer remedy, should be preferred.

Another cause of tardy first stage of labor is *premature rupture of the membranes*. This accident is apt to interfere with the progress of labor in the stage of dilatation, by the absence of the dilating cone formed by the membranes in normal cases, and by direct contact of the presenting part of the fetus with the uterus. Owing to the former, the uterine force is exerted at a disadvantage, and by the latter the os is apt to become rigid, dry, and sensitive, while the mother's suffering is much increased. The fetus is exposed to exceptional risk when obliged to pass through the entire stage of dilatation of the os without the protection of the liquor amnii, for not only are its parts subjected to injurious pressure, but owing to the much greater degree to which the uterus can contract, the interruption of the supply of maternal blood to the placenta is much more complete, yet it is possible for the fetus to retain perfect vitality for many days after the escape of the liquor amnii, as is shown in the following cases: Mrs. M., æt. 38, sent for me in June, 1878. I found her pregnant with her eighth child. She was in a state of great anxiety on account, as she asserted, of the escape of the waters which she told me had come away in large quantities. Examination did not convince me of the accuracy of her statement, and I concluded she had mistaken the source of the aqueous flow. One thing was certain, however, and that was

that she was not then in labor, although very near her time. She was enjoined to keep quiet, though rest in bed was not insisted upon. Five days afterward I was again sent for, and found her in the first stage of labor, but no membranes could be felt. She was safely delivered of a living child. If the membranes really did rupture at the time supposed, this is the longest period between the rupture of the membranes and the coming on of labor I have met with personally, but the following cases represent the possibility of the preservation of the vitality of the fetus under these unfavorable circumstances for a much longer period. Dr. Matthews Duncan reports a case in the *Lancet* for June 29th, 1872, in which forty-five days elapsed from the time of the rupture of the membranes to that of the birth of the child. During the whole of this period the liquor amnii continued to escape, as it was secreted, and the size of the uterus as felt through the abdominal walls was greatly diminished. When labor took place, a seven-months' fetus was born and lived for several hours, although much deformed by the protracted pressure to which it had been exposed. In the *Medical Times and Gazette* for September 18th, 1852, Dr. John Gould reports a case in which twins, a boy and a girl, were born, living five weeks after the waters had come away. Although the above cases are well authenticated, especially that of Dr. Duncan, in which the most careful observations were made, yet the asserted escape of the liquor amnii must be always received with great caution. The sources of the aqueous flow which may be mistaken for the liquor amnii are numerous. The spontaneous escape of urine is not infrequently mistaken by the patient for that of the liquor amnii, while the flow of profuse secretions, of Cowper's glands, the rupture of a cyst of the chorion, of another developed or undeveloped ovum, of a cyst lying between the chorion and the amnion may prove the source of the supposed liquor amnii. That the membranes may again close after having been ruptured has been proven. This is not accomplished by a process of healing as was at one time supposed, but by the sliding of the different layers of which the membranes are composed upon each other, by which a small opening may be effectually closed. After closure of the amniotic cavity in the manner described, the liquor amnii again collects, for this fluid is continually secreted as first shown by Winkler, and demonstrated in Matthews Duncan's case. A source of error in diagnosis as to the origin of the flow is in rupture of the membranes at a point within the borders of the os and out of reach of the examining finger. Here vaginal examination shows the presence of the membranes closing the os, and which become tense during the pains, while the opening becomes patulous and admits of the escape of the liquor amnii during the periods of relaxation. Notwithstanding the occasional occurrence of cases such as I have just given, the usual result of the escape of the waters, at whatever period of gestation it may occur, is to pre-

ipitate immediate labor, and this labor, as already shown, is unusually distressing to the mother, and at the same time subjects the fetus to increased risks. We have seen that the peril to the fetus is due solely to the persistence or the frequency and violence of the pains interrupting too frequently, too persistently, or too completely, the supply of maternal blood to the placenta.

The abnormal pains are not alone due to the irritation of the mouth of the uterus by the direct contact of the fetal parts with the uterus, but also to the mental condition of the woman. Most women view the occurrence of rupture of the membranes at the beginning of labor with anxiety and alarm, and such a state of the mind is very apt to be reflected injuriously upon the action of the uterine muscles. Hence care is necessary in the conduct of such labors; first of all to reassure the patient, then to enjoin rest as soon as the pains come on, and if they are at all disposed to assume an abnormal character, to keep the woman constantly in bed and give opiates to control the severity of the pains, to preserve the proper rhythm of the contractions, and to favor dilatation of the os.

Before closing this paper, I wish to refer to another, though kindred subject. I allude to the obscure symptoms sometimes occasioned in the parturient woman by the presence of intercurrent acute disease.

I have several times been deceived by symptoms due to the malarial poison becoming manifest during labor, or in the lying-in period, which have in the one case closely simulated approaching exhaustion, and in the other, acute local inflammation. Sometimes the manifestations of the presence of this poison consist of chills followed by fever, while in other cases there is more or less severe neuralgic pain alone. When the previous history of the patient has been obtained, and such history shows the presence of the malarial poison, the diagnosis of the true nature of the symptoms is not difficult, but it is so when no evidence of previous symptoms of intermittent fever is attainable. The following case is one of this character: Mrs. C., *æt.* 22 years, was taken in labor with her first child early in the morning of June 8th. As she had been referred to me for attendance in confinement by her regular medical attendant, I had no opportunity of obtaining a personal knowledge of her previous health. I learned, however, that in so far as she knew, she had never suffered from malarial poisoning. She had, however, suffered very much from almost constant nausea and frequent vomiting at the beginning and toward the close of her pregnancy. The labor continued throughout the day, and in the evening became quite severe. The vertex presented in the first position; as the os dilated but slowly and the patient's sufferings were severe, I ordered her to take a full dose of morphia. An hour or two later her symptoms were not satisfactory; her pulse was beating at the rate of more than one hundred per minute, her mouth showed a tendency to dryness, constant thirst existed, and

the patient frequently vomited bilious matter. Although the uterine contractions were very painful and frequent, they were short, weak, and inefficient. When the patient had been over twenty hours in labor, as the os was pretty widely dilated, I decided, in view of the symptoms, to apply the forceps and establish the second stage of labor, believing the physical strength of the patient to be sufficient to safely accomplish the subsequent stages of delivery. She was accordingly etherized to complete unconsciousness and the head of the child brought through the os and down upon the floor of the pelvis. The forceps were then withdrawn. As the effect of the ether passed off, good expulsive pains came on, and in due time a living child was born without accident. The mother did well for the first nine days after delivery, although the frequent pulse continued, with much coating of the tongue and some headache, but without any febrile symptoms whatever. On the tenth day, however, while still kept in bed, she was seized with pain in the left iliac region, which on the following day became violent and did not yield to the small quantity of opium (a remedy which she could not take without very disagreeable symptoms) which I induced her to take. This pain was not accompanied by fever, and I had no doubt was malarial in its origin. Acting upon this belief, she was placed upon full doses of quinine, when not only did the pain speedily disappear, but with it the frequent pulse, the headache, and the nausea. The patient had come to live in the house in which she was confined but a few months before her confinement, and the first evidences of the presence of the malarial poisoning in her system were those which appeared during her labor and subsequent lying-in. The dryness of the tongue, and much of the nausea appearing during labor, were probably due to the opium I had given her.

DR. PARVIN remarked that the subject of Dr. Richardson's paper was one of great practical importance, and his presentation of it has been very interesting. Coming to its ultimate analysis, a case of labor, tedious in either the first or in the second stage, shows a want of proper relation between power and resistance; the former for an unusually long time is unable to overcome the latter. Manifestly, if this be so, we have naturally suggested to us two plans of treatment; either increase the power or lessen the resistance. These principles are plain, but the selection and the application often present serious difficulties. Severe suffering in the first stage of labor certainly should be relieved, for this suffering exhausts, and it does not follow that the power of a pain is to be measured by the intensity of suffering it produces, and therefore "painful" pains are an undoubted evil. As to the means for their relief, when they are associated as they usually are with very slow dilatation, many would prefer chloral injected into the rectum to morphia internally or anesthetic inhalation.

In regard to the process of dilatation of the os, it is possible Dr. Richardson has attached too much importance to the bag of waters as a dilating means, that is, the mere passive process; but there is an active process—that by which the circular fibres

of the uterus are by the action of the longitudinal fibres retracted over the bag of waters, or the presenting part if the former be ruptured; it is not so much descent of the presenting part which occurs as it is the ascent of the expanded cervix, for in primiparæ at least, the head is usually at the beginning of labor in the pelvic cavity, and it can go no farther until the dilated os has passed more or less completely above it. It may be that, resistance being lessened by chloral or by opium, the power is sufficient to overcome it, but if it be not, probably the continuous current of electricity will be the most efficient means to increase the uterine force. In this connection I may refer to the statements of Bayer in his recent elaborate monograph, entitled "*Morphologie der Gebärmutter.*" In many cases of labor where delay occurs in the first stage, it is not the os uteri that is at fault; the obstacle is higher up, and according to Bayer, the anatomical condition of this "*Stricturirung*" is the deficient unfolding of the cervix. In such condition there may be a spastic ring-like stricture or a spastic partial stricture. The first form is especially liable to occur in a narrow pelvis. Bayer recommends warm fomentations, warm vaginal irrigations, a whole bath, eventually narcotics, especially opium by rectal injection, but he strongly insists upon the continuous current as the true natural method of treatment, on the one hand relieving cramp, and on the other exciting labor-activity, thus removing the primary failure, the deficient unfolding of the cervix. One word as to the occurrence of malarial poisoning in the puerperal woman. I think it comparatively very rare. Certainly this is the conclusion which I must draw from my own experience in private and in hospital practice. In two terms of service at the Philadelphia Hospital I have seen probably forty cases of puerperal septicemia, and only one case of malarial fever. When one sees a febrile attack in a woman after labor, he is disposed to take the most favorable view of the case and may attribute, at first at least, the disease to malaria, when really it is caused by septicemia, losing precious time, and may be led to give a favorable, when a doubtful prognosis should be indicated.

DR. JAGGARD, of Chicago, upon invitation from the chair, remarked that morphia hypodermically had been extensively tried in the first stage of labor at Vienna and Paris, and had been discarded in the former city about six years ago and in the latter more recently. It had been found to affect the fetus unfavorably; one-fourth of a grain administered every four hours for some time would be attended with grave elements of prognosis. The possibility of a live fetus remaining in the uterus forty-five days after the escape of the amniotic fluid he considered more than doubtful. Cysts sometimes form between the amnion and chorion, and the bursting of one of these may give rise to the idea of the escape of the amniotic fluid. *Hydrorrhea gravidarum*—a condition dependent on a diseased condition of the decidua—is a more frequent phenomenon and will explain many of the cases of supposed rupture of the amniotic sac.

DR. W. T. TAYLOR remarked that the causes of delay in the first stage of labor were numerous. For the relaxation of a rigid os he would prefer hydrate of chloral twenty grains; one-eighth of a grain of sulphate of morphia every two hours has a soothing and beneficial effect, giving rest and sleep between the pains. When the edge of the cervix is thin and wiry, the morphia is especially called for. He has experienced delay from dropsy of

the amnion. After a delay of six or eight hours, he has ruptured the membranes and after the escape of an enormous quantity of fluid, rapid and effectual contractions supervened. Another cause of delay is posterior position of the occiput; if a change of position can be effected, labor will progress more rapidly. He has observed premature escape of the liquor amnii from ten days to two weeks before labor, and yet everything went on normally. He has met with one case of malarial poisoning. In the eighth month intense pains were experienced, but there was no effect on the os. He gave five grains of quinine and ten grains of potassium bromide, and in a few hours the pain was relieved.

DR. LONGAKER stated that, according to his experience, morphia should be used guardedly. In some cases, it has caused stillbirths. In a recent case, the first stage of labor had lasted twenty-four hours, and the os was but one inch in diameter; four doses of sulphate of morphia, one-fourth of a grain each, were by mistake of the nurse given at intervals of fifteen minutes, dilatation and descent of the child quickly followed. As Dr. Parvin has stated, the early stage of labor consists mainly of retraction of the cervix, and early rupture of the membranes as a trouble is overrated. Undeveloped pelves of generally small diameter cause less delay in first labors than in later ones, because in the earlier labors the abdominal muscles are strong to assist the uterine contractions; in later labors, besides having less contractile powers, this laxity allows the body of the child to fall forward, and the vertex presents less favorably at the superior strait.

DR. TRAUTMANN.—In one case under his care recently he found a well-dilated os uteri and a free escape of waters; the pains ceased, ergot was given without any effect, and, as the forceps were strenuously objected to, he was obliged to do nothing; after an interval of four weeks, labor came on naturally, and a living child was delivered. The unaccountable facts in this case are the widely-dilated os, the escape of the waters, and a living child four weeks later.

DR. W. S. STEWARD.—Sodium bromide is useful to prevent premature labor; five drachms may be divided into ten doses, and one given every three hours. He has observed in one patient an apparent rupture of the membranes at five months, the fluid coming away with a constant drip; later the flow was greatest at night; this condition lasted for six weeks, when it terminated in premature labor; the fetus was living; the fluid which came away was examined and seemed to be amniotic. He also has observed retardation of labor from falling forward of the fetus in relaxed abdomen; when such a patient is placed on her back, labor goes on rapidly.

DR. CHAS. M. WILSON remarked that hydrorrhea gravidarum is more frequent than is supposed, and is mistaken for premature discharge of amniotic fluid. Rigidity of the os uteri is most quickly relieved by inhalations of chloroform. He has found its action more satisfactory than that of chloral and sodium bromide or ether, and safer than morphia. Postural treatment of early stages of labor is of the greatest importance; he would place the patient on the floor on her knees or haunches; holding by the back of a chair or a post is often useful, as it assists in fixing the respiratory muscles. He has not had good results from the local use of belladonna.

DR. KEATING spoke of some experiments he had been making.

The patient was first to practise Dr. Bonwill's method of inducing partial anesthesia by rapid long breathing for a time and then to hold the breath as long as possible. This method was found to bring on rapid and efficient pains in multiparæ with pendulous abdomens.

DR. BAER remarked that, take it all in all, morphia hypodermically is the most valuable remedy we possess for the relief of pain and rigidity of the cervix during the first stage of labor. Of course, it must be used within proper limits.

DR. RICHARDSON, in closing the discussion, said that his paper was not intended to be comprehensive. His use of morphia extended only to doses of one-sixth of a grain every four hours, by the mouth, and not hypodermically. In the patient, whose history he had given, intermittent fever was developed later on, and he has not the slightest doubt of malarial poisoning being the cause of the untoward symptoms during and after labor; there was no fever, no rise of temperature, and therefore septicemia is excluded. There can be no question as to the retraction of the cervix when the head is already in the pelvis, but when the head fits tightly into the superior strait, and the cervix is jammed by it, the pressure upon the upper sac is greater than upon the lower, cut off from it by the head. Chloroform is more efficient than any other agent he had used, but it was not always to be preferred.

DR. KEATING exhibited a pair of scissors for denuding flat mucous surfaces; they were remarkably thin. He also exhibited a bivalve fenestrated speculum.

VESICO-VAGINAL FISTULE.

DR. KEATING reported the following case from notes by Dr. Howard A. Pardee. Rebecca Johnson, col.; married, was admitted to the Philadelphia Hospital in the summer of 1884, complaining of inability to retain her urine and of a constant bearing-down pain in the hypogastric region, a burning pain in the bladder, and of frequent backaches. She had noticed that the urine was sometimes blood-stained in the intermenstrual periods. She stated that about a year previously she had fallen out of bed and had struck upon a broken chair, one of the rounds of which entered her vagina, hurting her severely, and that all her symptoms had dated from that accident. Soon after her admission to the house, an operation for vesico-vaginal fistula was performed by Dr. M. B. Musser, which relieved her for a time, but soon all the old symptoms returned. In January, 1885, examination revealed an opening from the vagina into the bladder, more than an inch and a half in length, involving the neck of the bladder and the posterior part of the urethra; a pedunculated growth was also found in the bladder, this was removed. No history of venereal disease could be obtained; there was a bad leucorrhea. In May, examination showed an enormous vesico-vaginal fistula; the neck of the bladder and the urethra had entirely disappeared. The edges of the fistula were very thick and callous, and anteriorly very little tissue was left beneath the pubic arch. A small recto-vaginal fistula was also

found, and exhibited the same thick, rigid edges. Several deep scars were found on the nymphæ and labia majora which seemed to be the marks of healed chancroids. An operation for the closure of the vesico-vaginal fistula was performed November 15th, 1885, but the patient died a week later. The specimens, showing the wound closed, were exhibited to the Society.

DR. B. F. BAER presented the specimens and read the report of a case of

HYDRO- AND PYO-SALPINX, COMPLICATED WITH FOLLICULAR
DEGENERATION OF THE OVARIES.

Mrs. H., æt. 42 years, was sent to me some months ago. She complained of great pain in both iliac regions, more in the right, radiating into the pelvis and sacrum, and down the limbs; she had menorrhagia and profuse leucorrhea during the inter-menstrual periods. She dated the trouble from an abortion which had occurred nine years before, and which was followed by symptoms of acute parametritis, from which she never fully recovered. Examination showed the uterus to be considerably hypertrophied and fixed as if in a vise by an indurated mass on either side of it, which seemed to occupy both broad ligaments or to be closely adherent to them. The cervix uteri was also badly lacerated; and its mucous membrane presented a surface so hypertrophied, abraded, and jagged that I was at first strongly impressed with the fear that epitheliomatous degeneration had begun to develop. I pursued a plan of treatment designed to reduce the congestion and hypertrophy of the diseased neck, and at the same time to induce an absorption of the plastic and indurated lymph around the uterus to render the organ mobile, so that an operation might be made safe. I only partially succeeded; for, while the uterus became much more mobile, there still remained a swelling or tumor on either side of it. These tumors had ill-defined borders, were not circumscribed, but were elongated and rather cylindrical in form, and fixed to the lateral pelvic walls, as well as to the uterus, though not very firmly to either. I now suspected disease of the Fallopian tubes and probably also of the ovaries. The patient entered my private hospital in February, 1885, when I operated upon the cervix, dissecting away a large quantity of tissue for the purpose of making proper adjustment of the labia and to get rid of the cicatricial tissue. It was not epitheliomatous. I had hoped by this operation not only to restore the cervix to health, but at the same time to induce, by a derivative action, a retrograde metamorphosis in the diseased tissues and organs appended to the uterus. I succeeded in the former and also in modifying all of the symptoms except the pain in the ovarian regions. This seemed to be made worse, or, at least, to become more prominent as the other symptoms were improved. The patient was sent to her home and advised to rest in the recumbent position for at least a part of

every day. Later, as she did not improve, local treatment was begun, consisting of an application of the tincture of iodine to the fundus of the vagina at intervals of a week, with boroglyceride tampons almost daily. At the same time counter-irritation applied to the iliac region by means of blistering was faithfully pursued. Nothing proved of more than temporary benefit. She began to lose flesh and to fail in strength. The fulness at the sides of the uterus had increased. She again entered my private hospital and under anesthesia I determined that the Fallopian tubes were distended to the size of small sausage, that the ovaries were also enlarged, and that the tubes, ovaries, and ligaments were all adherent to one another by plastic lymph. I advised laparotomy for the removal of the uterine appendages; the patient readily assented. A week later, I made an incision three inches in length through the abdominal wall, fully two inches in thickness, and came upon the omentum which was also very fat. This was adherent by its lower border to the pelvic tissues and organs, so that I was compelled to dissect it off on the right side before I could reach the uterus with my finger. Everything, Fallopian tubes, ovaries, broad ligaments, uterus, omentum, and intestines were so adherent and matted together that it was difficult to differentiate between them. The tubes were greatly distended and contained, the right pus and the left serum. The fimbriated extremities were glued to the lateral pelvic walls. The ovaries were as large as a good-sized hen's egg, and were closely adherent to the posterior surface of the ligaments. I dissected with my fingers, two being introduced, until the right tube and ovary were released, when they were drawn to the incision, ligated, and removed. The left tube and ovary were released with still greater difficulty, but I finally succeeded in ligating and removing them. Considerable hemorrhage occurred during the operation, and it was necessary to place a number of ligatures. The abdominal wound was closed with eight silk sutures. The operation occupied more than two hours. The patient slept four hours before she returned to consciousness, and awoke without the slightest nausea which both she and I had dreaded very much from a previous experience. There is not much to say concerning the after-treatment, for she did not require much. Her temperature never rose above 100°, and she made an uninterrupted recovery. She went home at the end of five weeks, and has been free from the old pain in the iliac region since four days after the operation.

Dr. B. F. BAER also exhibited

A SMALL FIBROUS TUMOR WHICH HAD UNDERGONE CALCAREOUS
DEGENERATION.

Mrs. L., æt. 60 years, a patient of Dr. J. H. Musser, of Lancaster County, Pa.; has had two children and two miscarriages. She had been treated for uterine hemorrhage a number

of times during the last fifteen years. She continued to "menstruate" until she was 57 years of age. One year afterwards, she began to suffer from severe uterine tenesmus, which was soon followed by a severe attack of "flooding." After this, she had frequent recurrence of the hemorrhages up to the time of the removal of the cause. The case had been looked upon as one of cancer, and had been abandoned to the fate which attends that dread disease; but she lingered on, and finally came under the care of Dr. Musser, who found, on examination, that the cervix at least was not cancerous. Through his kindness, I saw the lady at her home in September, 1885. I must confess that, when I entered the room, I was almost on the point of quietly saying to the doctor that I believed his patient had cancer. She had a marked cachectic appearance, and there was an odor very like that of cancer. I advised that a thorough investigation be made with the patient under ether. I found the cervix smooth and soft, the os slightly patulous, and there were several mucous polypi hanging from it. There was also a fetid muco-purulent discharge, which seemed to come from the cavity of the uterus. I removed the polypi, and then carefully passed the sound into the uterine cavity; it was large and filled with numerous soft bodies, vegetations, except at one point at the fundus. Here a mass was detected which was as hard as marble, and gritty. I next dilated the cervix with my steel dilator, which was easily done, because the tissues were so soft and dilatable, and passed my finger into the cavity. The finger confirmed what the sound had led me to infer. I now removed with the dull curette all of the fungous vegetations, enough to fill a large spoon in the aggregate, and then again introduced my finger, and found that the hard mass was imbedded in the uterine wall, and pedunculated. I endeavored to remove it with my finger, but failed; I then pried it out of its nest with one blade of a polypus forceps. It proved to be a fibroid tumor which had undergone calcareous degeneration. I cauterized the entire surface of the uterine cavity with fuming nitric acid. The patient has had no hemorrhage since. The case is valuable scientifically, because it shows the fallacy and danger of neglecting cases of metrorrhagia; first, on the theory that the hemorrhage is due to the change of life, and therefore physiological; and second, on the supposition that, because the hemorrhage came on so late in life, it must necessarily be the result of malignant disease, and be permitted to run its course unmolested. Untold suffering and loss of life have resulted from this want of action. I have so recently expressed my views on this subject in a paper on "The significance of metrorrhagia recurring about and after the menopause," *AMER. JOUR. OBST.*, May, 1884, that I refrain from further comment here.

DR. PARVIN remarked that the last case reported by Dr. Baer illustrates the importance of a careful local examination in severe

uterine hemorrhage, since in almost all cases such hemorrhage is symptomatic.

Hippocrates was probably the first to observe the discharge of stones from the vagina. He mentions a Thessalian servant who twice passed from the uterus what would now be regarded as uterine fibroids which had undergone calcareous degeneration. I have seen in one case, in a post-mortem examination, between thirty and forty calcified uterine fibroids.

Quite recently, there came to my knowledge, through a medical friend, the history of a case which very strikingly illustrates the difficulty of arriving at a correct diagnosis in severe ovarian, followed by uterine pain. A married lady, about 35 years of age, and the mother of three or four children, was attacked with sharp pain in one of the ovaries; the pain occurred in violent paroxysms during several months, baffling alike the diagnosis and therapeutics of competent professional gentlemen, then suddenly ceased. But while the ovary was relieved, equally severe suffering came in the uterus; it persisted several months, and only ceased with the discharge from the organ of a sewing-needle.

DR. CHAS. M. WILSON could not understand how Dr. Baer could make out his diagnosis in the case first described; with two inches of fat in the abdominal wall, how could slightly enlarged ovaries and tubes, glued down by lymph deposits, be detected? He felt sure he could not do it himself.

DR. PARISH said the diagnosis of such cases is at all times difficult, but the history of the case, with the aid of the examination, will make the diagnosis almost certain, sufficiently so to warrant an exploratory incision. Calcareous degeneration, in fibroid uterine tumors in old women, is frequently found in post-mortem examinations. The calcareous mass may be as large as a child's head.

DR. BAER, in closing the discussion, remarked that the great difficulty of making a diagnosis was an inducement to present the case before the Society. He had been eight months in making the diagnosis, and finally operated with hesitation and many misgivings. The pains were chiefly ovarian, but at first he contented himself with repairing the cervix, and endeavoring to promote absorption of lymph deposits; and although there was improvement, the ovarian pain remained. When the patient returned, the cylindrical mass on the left side was two inches in diameter, and could be outlined per vaginam; the ovary was as large as a hen's egg. This he could determine by examination under ether; and on the right side a hard tumor could be felt. This proved to be the thick-walled tube filled with pus; it was circumscribed and attached to the broad ligament. He felt sure about the diagnosis, but the adhesions made him hesitate long before yielding to the desire of the patient for an operation.

TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF CINCINNATI.

Meeting, December 10th, 1885.

The President, DR. A. J. MILES, in the Chair.

DR. JACOB TRUSH reported the following case of

FORCED DELIVERY IN PLACENTA PREVIA, WITH REMARKS.

Mrs. E. K., æt. 29 years, German, had engaged me to attend her in her approaching second confinement, anticipated to occur about the last of August, or first of September, 1885. Her first confinement had taken place two years ago; the labor had been very severe and protracted—child delivered with forceps—and was followed by a long spell of child-bed fever, and a very slow getting-up. By reason of this calamitous experience, Mrs. K. was a little apprehensive for the future, but withal courageous and hopeful. On August 8th, about 10 o'clock P.M., Mrs. K. sent me an urgent summons by telephone to attend upon her, and, taking it for granted that she must be in labor, notwithstanding the end of her term was nearly a month off, I went prepared for such purpose. On arrival I learned that Mrs. K. had had a "frightful flooding spell," and was just now recovering from an attack of fainting. A glance at patient's face was amply sufficient to convince me of the truth of this statement, for certainly she was as pale as death. Hastily examining respecting the state of the hemorrhage, I found that, for the moment, it had ceased; I had consequently time to make a few needful inquiries, and these elicited that during the first week of July last, Mrs. K. "became unwell," as she expressed it, but only for a few hours, and not badly, so that, as it was slight, it gave her no concern, and she never thought of mentioning it to me. Next (this) morning, August 8th, about 8 o'clock, she again had a slight flow which likewise gave her no uneasiness; a third attack, quite moderate and lasting only some minutes, occurred at 6 o'clock in the evening this day, but still without alarming her. She retired at 9 o'clock, and fell asleep only to be awakened again within an hour thereafter by a sensation of some warm fluid running up under her body. Thinking she had "broken her water," and believing she would now be speedily taken in labor, she aroused her husband and told him to send for me. To make sure that her impression respecting the character of the warm fluid was correct, she called for a light, when, to her great consternation, she found that the fluid in question was not water but blood; that, to use her own words, "she was literally swimming in blood." She had no pains whatsoever, and had not experienced

anything like labor pains during the day; neither had she done any unusual lifting or straining. This recital, taken in connection with the pregnancy, left but little room for doubt as to the cause of the flooding, and whatever of uncertainty existed was speedily cleared up by the digital exploration now instituted, and which disclosed the following: the vagina is found completely filled with blood-coagula; the cervix is intact, but very soft, os tincae as well as cervical canal and os internum open sufficiently to readily admit the index finger; above and covering the os internum, a spongy body with uneven surface is made out: this body is securely attached to the uterine wall at all points of the circle, except to the left posteriorly, where a slight separation exists, and from which point the flow of blood, now started anew, seems to issue. No fetal parts are to be detected from the vagina; by external palpation, however, it is ascertained that the head of the fetus rests upon the left iliac fossa, while the breech occupies the right superior angle of the uterus. Not a trace of uterine action is apparent during the entire exploration. Manifestly this was a case of "placenta previa" with, probably, "central" insertion. What now were the indications of treatment? Should I temporize: plug the vagina and cervix, and wait for pains? or should I pursue an aggressive course: excite uterine action, turn, and deliver as speedily as possible, compatible with safety? For reasons to be mentioned further on, I chose the latter course, and for its accomplishment decided to have recourse to bipolar version and the plugging of the cervix with one of the lower extremities of the child. In view of the great flaccidity of the uterus it seemed probable that the turning might be effected by external manipulations simply, a result greatly to be desired, as thus the internal work would be materially abridged, and the unavoidable loss of blood attendant thereon reduced to the minimum. Manipulations to this end were accordingly put into practice, and proved very successful, the breech being readily brought down on the right side upon the inlet, and the head pushed up on the left to the corresponding angle of the uterus. It now only remained to get hold of one of the feet and conduct it down through the cervix into the vagina, etc. Believing that I should be able to reach the nearest foot without inserting the whole hand into the vagina, four fingers only of the left hand—patient's position in bed necessitating the use of that hand—were thus inserted, and thence the index and middle fingers pushed on, up through the cervix. As stated before, the cervical canal easily admitted of the passage of one finger; the entrance of two, however, notwithstanding the extraordinary softness of the tissues, was attended with some little difficulty, and required considerable pressure to overcome the resistance. It is, of course, needless to say that in so doing the two orifices, ora externum and internum, were brought in contact, the intervening portion bulging out laterally. Arrived

at the placenta, I sought out the point of separation and passed the fingers onward in that direction, hoping to be able to reach the membranes, but in this I was disappointed; they proved to be beyond my reach. I hence endeavored, next, to perforate the placenta itself, but again was foiled in my efforts; the fetal side of this structure being so tough that sufficient counter-pressure for this purpose could not be obtained. Nothing remained but to insert the entire hand into the vagina, when, with the increased range of accessible territory, I did succeed in reaching membranous surface, viz., at a point about the length of my index finger from the os internum and in the locality already mentioned. To my great chagrin the membranes also proved too strong to be ruptured by mere pressure; fortunately, however, I succeeded in pinching up a small fold of membrane, and by a little downward traction effected the desired laceration. Once within the cavity of the ovum I was not long in getting hold of the nearest foot, the anterior, and drawing it down through the cervix into the vagina, and as far as the vulva, where it was held under moderate traction. The hemorrhage, external at least, was now found to be completely arrested, and to guard against internal bleeding I gave ergot, and made friction and pressure over the fundus. The uterus presently began to contract, and soon regular labor pains were developed, induced in no small degree, as I believe, by the continuous moderate traction maintained upon the foot. The version had been completed about 11 o'clock P.M., and by 2:30 A.M. of the 9th, the child was born, and born in the main spontaneously, as no effort at forcible extraction was made, merely the usual assistance needful in breech labors rendered. Immediately upon the birth of the child the hemorrhage recommenced, and, though mitigated with complete evacuation of the uterus, was still entirely too free for so anemic a patient as I had before me. Having made preparations for such an event during the hours of waiting, and having hence in readiness an abundance of hot cider-vinegar, I injected about three ounces of this liquid into the uterine cavity, and right away thereafter gave, hypodermically, twenty minims of liq. ergotæ purificat. (Patient had already during the labor taken, per os, three teaspoonfuls of the same preparation.) For a short time, perhaps half an hour, the hemorrhage ceased entirely, but then it began anew; the flow was not profuse, and under ordinary circumstances would have given no concern, but, in the present instance, with the patient constantly on the verge of syncope, despite the diligent administration of stimulants, every drop of blood was precious, and must be preserved if at all possible. As the fundal part of the uterus was well contracted, it occurred to me that a styptic plug in the uterus might do good service; a large wad of absorbent cotton, saturated with hot cider-vinegar, was accordingly pushed well up into the uterus and left. The hemorrhage ceased promptly, and as it proved permanently. To make

sure that there should be no internal hemorrhage consequent upon a possible relaxation of the uterus, I injected under the skin of the abdomen another twenty-minim dose of liq. ergotæ, and an hour later a third dose of like amount; also gave, per os, thirty minims of laudanum in whiskey. Patient presently expressed herself as feeling better, and under the diligent employment of stimulants and nutriment, in small but frequently repeated doses, she had, by 7 o'clock A.M. of the 9th, sufficiently recuperated to admit of having her person cleansed and the bed changed; at the same time the plug of cotton was removed and an antiseptic vaginal douche administered. From this time onward, excepting a brief attack of diarrhea on the eighth day, patient's recovery was uninterrupted. After the third week she began to sit up a little, and by the end of the fourth I found that I could safely discontinue my visits. It would be entirely superfluous to give details of treatment during this period; suffice it to say that it consisted almost exclusively in careful alimentation and the use, during the first week, of antiseptic vaginal douches. To show how thoroughly Mrs. K. has recovered from the effects of this labor, I may mention that in October she nursed one of her stepchildren, a boy of 10 years, through an attack of typhoid fever, besides superintending her household.

A few words more respecting the child: at the moment of birth it was deeply asphyxiated; slight pulsations in the cord were, however, still perceptible, and hence life certainly not absolutely extinct. Efforts at resuscitation were therefore promptly instituted by the nurse, it being impossible for me, at that moment, to do more than give general directions. How accurately these were carried out I am unable to say, as they took place in an adjacent room, but that they were effectual I presently had abundant evidence in the vigorous crying of the child. The infant is now, at the age of four months, fully of the average size of children of that age, and is hearty and strong.

The main object in reporting this case, to place it on record, having been attained, I might stop right here; there are, however, two or three points upon which I desire to offer a few additional remarks. They relate, respectively, one to the definition of the term "*central*" implantation of the placenta; another to the meaning of the expression "*forced delivery*" and the third has reference to the topic of local styptics in post-partum hemorrhage.

The usual subdivision of placenta previa being into central, partial, and marginal, it is found that very little difference of opinion exists among recent authors respecting the import of the terms "*partial*" and "*marginal*," not so, however, as regards the term "*central*," for, while we are told by Lusk that *central* implantation may be said to exist when, "*after full dilatation of the os internum, placental structure only can be felt.*" Barnes says nothing about dilatation of this orifice; for him, "*complete*" or

so-called "*central placenta*" exists if the "*os internum* is quite covered by placenta, etc.," presumably as soon as this structure can be made out by digital exploration, *i. e.*, at the very commencement or even before the commencement of labor. It is readily perceived that, under the management adopted in the case reported, it would be impossible in any instance to determine with certainty whether the requirements for *central placenta* according to Lusk were fulfilled or not; whereas, with the definition of Barnes, this difficulty is not encountered. According to this author, I could without hesitancy record my case as one of *placenta previa "centralis."*

In regard to the meaning of the term "*forced delivery*," *accouchement forcé*, it is found that authorities, such as Lusk and Barnes, both condemn and sanction "*forced delivery*." An *accouchement forcé*, having no regard whatsoever for the integrity of the cervical tissues, but aiming solely at speedy delivery, this, very properly, is condemned; but further along, when the practitioner is reminded that, in "*complete*" insertion of the placenta, no half-way measures must be indulged in, he is commanded to dilate and plug the cervix with tents and dilators, detach the placenta, rupture the membranes, and when sufficient dilatation had been secured, bring down a leg and extract. Thus another form of the *accouchement forcé* is recommended. Now, if by the term "*accouchement forcé*" any violent, and hence almost certainly injurious procedure is to be understood, then all is plain enough, but if the term is to apply to a certain method, that for instance of digital dilatation, turning upon the feet, and gradual extraction, then it is difficult to understand why such measure, carefully conducted, should be condemned, while an equally forcible delivery by tents and dilators and extraction is sanctioned. Or is, perhaps, any form of forced delivery which results in disaster to be regarded as "*the condemned*" *accouchement forcé*, and per contra that which succeeds, "*the approved*?" In that event none would escape censure, and yet all would stand approved; for it is safe to say that every method yet introduced has been more or less successfully practised. The reporter is under the impression that the authorities mentioned—Lusk and Barnes—are disposed to condemn anything like digital (normal) dilatation, followed by turning and extraction, whereas instrumental dilatation, by means of tents and dilators, followed by turning and extraction, is approved. It is needless to say that either method may be so rudely and unskillfully practised that harm may result, but if the safe delivery can be accomplished without the aid of plugs and tampons, so much the better, certainly, for these appliances are unquestionably a prolific source of infection, and yet fulfil only very partially the chief indication of their use, that of mechanical hemostatics. If by judicious digital pressure the cervix can be adequately dilated to admit of the passage of two fingers, and if then by the

downward extension of a foot the cervix can be securely plugged by the limb of the child and the subsequent further dilatation effected by continuous, moderate traction upon the extended limb until safe extraction is possible, or a spontaneous birth takes place; if these things can be done, as they have been repeatedly with perfect success, is it not preferable, I would ask, to proceed by such a method, rather than have recourse to rubber dilators, tents, and tampons? The procedure in question was employed in the present instance because of the well-known prompt effect it has upon the hemorrhage, controlling it almost instantly, perfectly, and permanently—as is clearly shown by the numerous array of cases in the hands of Hofmeier, Behm, and Lomer. It was employed, further, because it would require so much less handling of the parts than would be necessitated by the tampon process, being for this reason proportionately less liable to engender septic infection.

In reference to the third point mentioned, the employment of local styptics in post-partum hemorrhage, I merely wished to call attention again to the superior advantages of the common cider-vinegar. It is not necessary here to recall the conditions which, especially in placenta previa, predispose to post-partum hemorrhage; these are well understood, and it is equally well understood that of the two classes of remedies employed for its arrest, those inducing contraction of the uterus and those giving rise to thrombosis of the sinuses, the latter, the styptics, are often the more efficient agents.

Now of the styptics at our command for this purpose, none, perhaps, have received more general commendation than the sub-and per-sulphates of iron. That they are very efficient preparations for arresting hemorrhage, no one will deny, neither will it be denied, I venture to assert, that their use, in cases of post-partum hemorrhage, is attended by some very disagreeable ulterior effects: I allude to the terrible tanning of the vagina and vulva, the clotting of the effused blood in the uterus, and the consequent blocking and filling up of its cavity with a great mass of hard, black coagula—a mass which must be left to be discharged spontaneously, and which, therefore, is exceedingly prone to develop septic infection. All these disadvantages of the iron salts are avoided with the use of the cider vinegar, while in efficiency as a hemostatic, it is, in my experience at least, in no way inferior to the preparations of iron; it deserves, unquestionably, more general employment.

DR. C. D. PALMER remarked that he had had occasion to employ the method of delivery, spoken of by the essayist, in several instances. He had reported already to the Society two cases of placenta previa in which the method had been attended with successful results to the mother. This was nearly two years ago; and he had had some experience since then. He thought highly of the plan in certain instances.

It was one of the nicest points in practice to determine at times when to wait, temporize, allow circumstances to guide us, and when to delay no longer, but control events. This was illustrated in the management of placenta previa. If labor was merely commencing, the dilatation small, and the hemorrhage not great, the tampon properly applied (patient in Sims' posture, and through a Sims speculum the cervical canal and vagina plugged with absorbent cotton), met every indication. Generally such a procedure would hold the hemorrhage in check until there was a sufficient amount of dilatation to effect version or apply the forceps, if symptoms were urgent.

Again, so great and oft-repeated may the hemorrhages have been that the woman's general condition is extremely critical. She is pulseless, and but a little disturbance more may quickly turn the scale of life against her. To force delivery by version would mean enough shock in this critical condition of things to sacrifice a life which might have been saved. It is more prudent to wait, lower the head, stimulate and nourish, rupture the membranes, apply an abdominal bandage, etc., in fine, use means and measures which will bridge over the patient, bring about a reaction, when, if labor is not spontaneously carried on, version may be accomplished with greater safety to the patient.

But, on the other hand, if the hemorrhage is active with a probability of its continuance, at least with no assurance of its cessation, if the general condition will permit of interference, and the cervix being dilated sufficiently to introduce the fingers, it is best not to wait, but proceed with the delivery. Turning, under these circumstances, has been attended by a heavy mortality, but it was rapidly executed. There is nothing new in the method of turning as recommended and practised by the Germans. The special advantage just claimed by them, and which exists, consists in the manner in which the delivery is completed after the turning. The foot and leg of the fetus having been brought down within the vagina and now under control, a very slow, steady, or interrupted traction is made to complete the delivery. An abundance of time is consumed in allowing the soft parts to dilate, and the whole delivery is attended with a minimum of shock. The chief advantage is the pressure made by the buttocks of the child on the placental region, acting as a tampon, controlling the hemorrhage. Experience with the method has proven, not only its utility, but the saving of many mothers' lives. To the child, of course, the mortality is heavy, as by the old way.

Practised after this manner, the employment of version in placenta previa does not prevent the utilization of any method of artificial detachment of the placenta, but it may be rendered unnecessary by their use.

This German method of completing delivery after version has much to commend it, because it places the element of danger under quick control, making delivery practicable, more early in labor, is safer to the life of the mother and to the integrity of her soft parts.

DR. THAD. A. REAMY stated that he had seen, in all, twenty-four cases of placenta previa; eleven of these cases in his own private practice; the remaining thirteen in consultation. Of his own cases, four were placenta previa *centralis*, and seven placenta previa *lateralis*. Nine of the eleven cases were in multiparæ, two in primiparæ. In four of these cases, hemorrhage occurred prior to

the thirty-second week of gestation; in but one, however, did delivery occur prior to that period. In two cases, hemorrhage occurred first between the thirty-second and thirty-fourth week; in one case, in the thirty-fifth week; two cases, in the thirty-eighth week; one, in the thirty-ninth, and one, in the fortieth. In each case of central implantation, the subject was multiparous. As to *treatment*: in three cases he used the tampon until dilatation could be secured, this state being aided by this means in each of the three cases. In one the tampon arrested the hemorrhage which did not return for some weeks, when delivery was accomplished, mother and child surviving. In two cases of lateral implantation, he had practised Barnes' method of detaching the placenta for two to three inches above the internal os by the finger; in both instances hemorrhage was controlled and dilatation promptly promoted. His observations confirm the generally-received opinion that, in cases of lateral implantation, the cervix is far more likely to be non-dilatable than in cases of central implantation, when it is generally quite easy of dilatation. In most of the cases, dilatation was aided by the fingers; in two by Barnes' bags, which he has now abandoned. In seven cases, he practised podalic version—in five of these introducing his hand completely into the uterine cavity; in the other two cases, version was accomplished by conjoined manipulation with only two or three fingers in the uterus. In one case, the breech presented; in three cases, vertex delivery was accomplished—in two of this number by the forceps. In every case of version an anesthetic was employed, but in two of these cases the patients were but little under its influence. Seven children were delivered alive, four dead. No mother was lost, although in two cases rather grave septic symptoms developed; and in three cases, recovery from severe shock and blood-loss was slow, yet, so far as he knew, recovery had been complete in each instance. It was somewhat remarkable that he had seen three cases of placenta previa in consultation, before he had encountered a single case in his own practice.

Recently he saw, of course, most cases in consultation, as he does not engage to care for many obstetrical cases. Of the cases seen in consultation, so far as he knew, but a single maternal death had occurred, and this from septicemia, caused most likely from leaving a tampon in too long—an oversight for which he considered himself far more reprehensible than the attending physician, who was a young man and had depended largely upon the speaker for management of the case. The patient was in the sixth month of gestation, and was decidedly septicemic when delivered. He had delivered three of the cases seen in consultation by forceps, vertex; in two of the cases seen in consultation, the placenta being laterally implanted, he had successfully practised Barnes' method of placental separation. In two of the consultation cases, delivery occurred prior to the twenty-eighth week; in both cases the child was, of course, lost. Of the children in the remaining eleven cases, three were lost; a total mortality of five children in the thirteen cases. Maternal mortality of 1 in 13, or, to class the total private and consultation cases (24): Mothers lost, 1; children lost, 9.

The speaker thought that there was a partial misapprehension on the part of the essayist in his quotation from Lusk. The author certainly could not be charged with opposing the practice recommended and practised so successfully by the author of the report. Lusk reports a case in which, by this method, he saved

both mother and child, and he speaks in warm commendation of the method. He adds, however, that he believes "that a certain amount of preliminary dilatation with Barnes' bags tends to enhance the chances of the child without endangering the life of the mother." Lusk is generally a strong advocate for prompt delivery, but not until the necessary preliminary steps are taken.

The speaker thought a preceding speaker mistaken in attributing this method of delivery in such cases to the German authors quoted. It was true, the method had recently been rendered quite popular by the remarkable success claimed for it in the hands of Hofmeier, Behm, and Lomer; but it was first advocated by Braxton Hicks as early as 1861.

It is interesting to note that, notwithstanding this subject is so much better understood now than then, and the technique of the manipulation so much improved, and the maternal mortality is somewhat lessened, nevertheless *turning* was the practice in the times of Rigby. We are too apt often to forget the clearness with which the practitioners of a former generation grasped the principles, and the skill with which they executed practice.

It is to be noted also that, notwithstanding the very favorable reports of special practitioners in modern times, as Barnes, Behm, Hofmeier, Lomer, and others, the mortality rate is still but little diminished. In his last edition Lusk puts it at about one in four deliveries; admitting, however, very justly, that this high mortality is largely due to the direct and remote effects of post-partum hemorrhage and to septicemia.

It could not be denied that septicemia, as well as secondary hemorrhage, are more likely to follow the so-called *accouchement forcé* than delivery by other methods. This is what might be expected, since, under such circumstances, the emptied uterus would not contract so readily and firmly as after delivery accomplished more slowly. And then the character and extent of manipulation necessary for delivery when there is not sufficient cervical dilatation is unfavorable.

He did not think that the mortality to children delivered by this method could be a matter to be passed over lightly. Lomer's fetal death rate was fifty per cent; Hofmeier's, sixty-seven per cent, and Behm's, eighty per cent. The first two are rather a bad showing, and it must be largely attributed to premature turning. The speaker would gladly consent that the life of the mother may seem to be more important than that of the child. We must at the same time insist, with Lusk, that by waiting, in most cases, until sufficient dilatation of the internal os has been secured, to allow of tolerably prompt delivery after version has been accomplished, the chances of the child are thereby greatly enhanced, and those of the mother not diminished. During the delay for this dilatation, it may be accomplished either by the tampon, Barnes' bags, tents, or preferably, when practicable, by the fingers of the accoucheur. The speaker did not wish to be understood as opposing prompt delivery; on the contrary, he strongly advocated it; it had for years been his practice, if the gestation was beyond the thirtieth week, to secure delivery as speedily as possible; he regarded no woman safe until delivered. Nevertheless, he considered two errors could be committed: one of these consists in turning by the so-called two-finger method before there is sufficient dilatation to allow of prompt delivery, thus needlessly sacrificing many children who might be saved; the second error is in forcibly thrusting

the hand into the uterus before the internal os is sufficiently dilated to permit of the introduction without damage to the uterus—a practice which was far more prevalent in former times than now. He thought no absolute rule could be adopted, each case must decide for itself, but prompt delivery is desirable. The speaker thought that, in suitable cases, the recommendation and practice of Robert Barnes, viz., separating the placenta, by the finger, from the uterus for an inch or two above the os, was worthy of high consideration. He had practised it himself with perfect success.

Many fail to comprehend Barnes' method or the means by which it arrests hemorrhage. All know that the cervix must dilate to four or four and a half inches in diameter before delivery of the fetal head can occur. Barnes shows that during placental adhesions this dilatation cannot occur; for as dilatation proceeds the cervix recedes towards the fundus. This is one of the actions of the oblique and longitudinal muscles—the lower uterine zone retracts; in other words, the cervix is pulled over the head of the child. It is this retraction—a necessary result of dilatation—which allows of closure of the arterial twigs which are also retracted, the mouths of vessels are closed, and hemorrhage ceases.

As to employment of the tampon, the speaker would limit it to cases where hemorrhage is severe and dilatation not sufficient to permit of delivery. To be effectual, however, it must reach within the cervix. The material is not so important as the method of introduction; he preferred, however, absorbent cotton, wool, or old muslin torn into narrow long strips. Sims' position and Sims' speculum are necessary to perfect introduction. First the cervix is well filled, then all the culs-de-sac, and then the entire vagina, and finally a napkin compress firmly applied. The packing should under no circumstances be allowed to remain over six hours. If the treatment must be continued, let the tampon be replaced by fresh, clean material at the expiration of this time. When the change is made, let the vagina be thoroughly cleansed of all coagula.

The speaker must congratulate Dr. Trush on his method of arresting hemorrhage after delivery in this case. The practice of tamponing the empty uterus is in opposition to most authorities, but in this case it was sound. It will be observed that the fundus of the uterus was fairly contracted. There was, therefore, no large cavity there to contain the blood of concealed hemorrhage. The plugging in the case reported probably acted in the following way: 1st. By introducing the cotton saturated, the styptic was applied directly to the bleeding vessels; 2d. Pressure was by the cotton brought to bear directly upon the bleeding vessels; 3d. The plug, by mechanical irritation of the cervix, would stimulate the uterus to contraction. We must bear in mind that hemorrhage in these cases, even after delivery, occurs from vessels in the lower uterine zone, and that firm contraction of that portion of the uterus above the ring of Bandl offers no security against it. The styptic plug, in such cases, therefore, becomes an invaluable agent, not, however, for the purpose of closing the mouth of the uterus, but for the reasons above enumerated.

DR. GUSTAV ZINKE said he had seen three cases of placenta previa. The first, Dr. C. D. Palmer in consultation, was a patient æt. 38, twelfth confinement, who had been bleeding over four weeks. The circumstances necessitated a forced and rapid deliv-

ery, but the patient died from exhaustion, in spite of all efforts to save her, in thirty-six hours. The second case was a stout young German woman, of 25 years, expecting her second confinement. The speaker was summoned to her about the middle of the eighth month on account of a slight hemorrhage. The vertex presented with the occiput to the right, the os was not dilated, and the hemorrhage was so slight that nothing was done except to give ergot. The hemorrhage ceased in consequence, but returned after three days, the os being now a little more dilated, but as he was not able to get his finger into the cervix, the speaker was not positive whether it really was a case of placenta previa or not. He repeated the same treatment as before and enjoined perfect rest. The patient appeared to remain in perfect health, though oozing a little constantly, up to the end of the eighth month, when the hemorrhage became profuse. The speaker then placed the woman in Sims' position and tamponed the vagina. In place of anything better he used for this purpose a roller-bandage, which he partly unrolled until it was small enough to enter the cervix and the remaining loose portion (about ten yards) he packed about the cervix and the vagina, filling it completely. This controlled the hemorrhage, the next morning the tampon was removed, and the os was found sufficiently dilated to admit two fingers, version was performed, and a living male child extracted in two hours. The hemorrhage ceased, but the speaker administered a teaspoonful of fl. extr. of ergot, and, before leaving his patient, washed the genital tract with carbolized warm water. Shortly afterwards he was summoned again to her on account of an intense pain in her right side near the pubis, for which he could give no reason. It subsided on the subcutaneous injection of $\frac{1}{4}$ gr. morphia. This pain returned and continued; no swelling could be felt at first, but there was slight tenderness on pressure. Later, when a slight swelling could be felt high up and to the left in the vagina, poultices were applied, and the vagina irrigated copiously and frequently with carbolized warm water, which gave relief, but did not suppress the pain. At the end of the first week a chill supervened, abdominal swelling manifested itself, and a doughy sensation (no fluctuation) could be felt on palpation to the left and anterior of the cervix. The patient grew worse and worse, and died on the tenth day in high fever, quinine and salicylate of soda in large doses having had no effect. The post-mortem examination revealed a rupture of the uterus in the left anterior section of the cervix, extending half an inch or more into the body, and a mass of decomposed blood which had formed an abscess. The child died about the same time from want of care. The third case, German, aged 31, tall, stout, and well-built, third confinement, had arrived at the eighth month when hemorrhages occurred. Up to the end of eighth month loss of blood was slight and intermittent. Ergot was given and rest in bed observed. At this time, there was a sudden and profuse hemorrhage. The os was sufficiently open to confirm suspicion of placenta previa and to proceed to turn and to deliver. Attachment of placenta was central, delivery through the placenta was accomplished slowly, yet a good deal of traction had to be made, and great difficulty was experienced in bringing down the head. The child died during the efforts of freeing the head. The mother recovered and sustained no injury besides a slight bilateral laceration of the

cervix, which, so far, had given rise to no trouble. In each of his cases delivery was effected under semi-consciousness from chloroform. He thought that, while slow delivery was safer to the mother, experience and time will prove that it is more dangerous to the child, just whose life is the most precious and ought to be guarded in preference to the other is still a much disputed point. In some instances, it may be that of the mother; in others, that of the child.

DR. JULIA W. CARPENTER said that in her private practice she had not had a case of placenta previa, but when interne at the hospital in Philadelphia, she had one case in the out-practice. At the time first seen, the patient was near the eighth month of gestation. She was sent for on account of hemorrhage, but there had been slight attacks of hemorrhage at intervals before this one. The os was sufficiently dilated at this time to render a diagnosis easy. The hemorrhage was controlled by rest exclusively, until the patient went to term.

When the labor began, according to the established rules of the hospital for all abnormal cases, the consulting physician was sent for. The membranes were ruptured and forceps applied, which brought forth a dead child. The mother made a narrow escape, but recovered. The implantation was central, and the time from beginning of labor to delivery of child about three hours.

DR. J. TRUSH, in concluding the discussion, said that his case was of such a nature that something had to be done immediately, because the hemorrhage would have been fatal. The cervix was so soft and dilatable that two fingers could, with some difficulty, be introduced. It had been asserted by one of the speakers that usually there is a rigidity of the cervix in placenta previa; the speaker, however, thought this to be the exception rather than the rule, as authorities state that this holds good only in about twelve per cent of the cases; in the remaining proportion the cervix is readily dilatable. Moreover, this rigidity is more remarkable in partial implantation. Thus the speaker had a case, only night before last, where the placenta extended half way across the cervix; dilatation had gone on to the size of a silver dollar, the child was turned, the foot brought down, but it required quite a while for additional dilatation to take place before delivery could be accomplished, when a dead child was brought forth.

As to the so-called "two-finger" method, the speaker would accept it as his method, but would first endeavor to effect turning by external manipulation. Lomer even says that a foot can be brought through the cervix if but one finger can be passed up; the speaker had never attempted this feat and did not see how its execution was possible. He held that it was hazardous to wait until the forceps could be used, but sometimes this might be done. He recalled now a case of placenta previa, seen in consultation, where the hemorrhage had been allowed to go on a full twelve hours unchecked; when he arrived the forceps could be readily applied, but the patient died subsequently from exsanguination.

TRANSACTIONS OF THE GYNECOLOGICAL AND OBSTETRICAL SOCIETY OF BALTIMORE.

Regular Meeting, January 12th, 1886.

The President, GEORGE W. MILTENBERGER, M.D., in the chair.

WM. E. MOSELEY, M.D., Secretary.

DR. L. E. NEALE read a paper entitled

TWO CASES OF DYSTOCIA,

of which the following is an abstract:

Case I.—A white primipara, æt. 25 years, in labor at term, with living child presenting L. S. I. A., breech movable above superior strait, and unaccompanied by inferior extremities. Descent failing, the attending accoucheur resorted to chloroform manual extraction, and Elliot's forceps with an unsuccessful result. Another physician also tried, with the patient under chloroform, (a) manual extraction, (b) to pull down a foot. Dr. N. was called in consultation, and after many trials, including the use of Tarnier's forceps, which slipped, finally succeeded in bringing down a foot and extracting an asphyxiated child, which was restored by Schultze's method. Mother well. The doctor called attention to the use of (1) Barnes' method of decomposition; (2) the obstetric forceps in such cases of difficult *frank* (Pinard) breech labors. He referred to Tarnier's explanation of the cause of difficulty in engagement and disengagement being due to the legs *splinting* the trunk, and thus preventing flexion of the same, and he thought that this fact might indicate the propriety of Barnes' plan of treatment. He cited several authorities, and agreed with those who considered this method difficult, if not dangerous, when the breech occupied the pelvic cavity, and he was of the opinion that manual extraction directly upon the breech should not be utterly ignored. Most recent authorities sanctioned the use of the forceps in *frank* breech cases, Olivier declaring that the instrument may be applied to the breech even at the pelvic brim. Lusk particularly recommended the Tarnier forceps, and Dr. N. thought the instrument should be tried before resorting to more dangerous instrumental measures.

Case II. was one of contracted pelvis occurring in an Irish woman 30 years of age, in labor at term with third child. Her two former labors were terminated by forceps operation, the child dying on each occasion, and in this, her third labor with child presenting vertex R. O. I. P., head movable at brim, forceps and version both repeatedly failed, and the child here also died during the

accouchement. Dr. N. was then called in consultation, and with great difficulty succeeded in delivering by craniotomy a ten-pound child. The puerperium was normal. The external pelvic measurements were normal; the internal conjugate was about two and three-quarter inches; the symphysis pubis was about two and one-half inches long, and had an exaggerated inclination, and there was, moreover, a marked thickening of the pelvic bones. The entire build of the woman was short, stout, massive, and powerfully muscular, although there was no sign or history of rachitis. Dr. N. preferred version, when practicable, to high forceps in contracted pelves not less than two and three-quarter inches in smallest diameter, and he cited authority in support of this view. In such cases as labor at term with living child, he would at once resort to version if practicable; if impracticable, high forceps cautiously, and, failing in this, craniotomy. With dead child presenting head at the brim, craniotomy at once. If such cases should be seen early enough, labor should be induced by Krause's method (introduction of a bougie into the uterus) about the thirty-second to thirty-fourth week of gestation, and even then, if *necessary*, deliver by version.

DR. H. P. C. WILSON said that he had nothing to offer in regard to Dr. Neale's paper except words of commendation, and he was very ready to accept the teachings advanced. In his own practice, in cases of presentation of the breech demanding interference, he always brings down a foot. If the breech is engaged in the superior strait, he pushes it up into the uterus, and brings a foot down even if it is at the fundus uteri. He never exerts traction in the groin either with his finger or the blunt hook, and never uses forceps in such cases. With greater experience, turning grows more and more in his favor.

He referred to the confinement of the wife of a friend in Copenhagen, in which case the head presented. After prolonged effort and failure with forceps, the child was removed by embryotomy. He felt certain from the account he received that, had turning been resorted to early, there would have been very fair prospects of saving the life of the child.

DR. B. B. BROWNE had succeeded twice lately in delivering the child with Tarnier's forceps in difficult breech presentations, where the membranes had been ruptured several hours, the vagina hot and dry, and the breech firmly fixed in the superior strait. In a similar condition, several years ago, he had applied Elliot's forceps, but they slipped, and failed to deliver the impacted breech. In all cases where the membranes are unruptured, or where the breech is not firmly wedged in the pelvis, he would prefer bringing down the feet rather than using forceps.

In reply to a question, Dr. B. said he applied the forceps in these cases to the sides of the pelvis of the mother, and without reference to the portion of the breech upon which the blades would press.

DR. NEALE, in reply to a question, said that in the first case reported, the blades of the forceps clasped the child over its hips. He thought, however, that the forceps would have a better hold if one blade was over the sacrum and the other over the anterior as-

pect of the opposite thigh, which is the method recommended by Dr. Lusk.

DR. THOS. OPIE highly approved of the teachings set forth in Dr. Neale's paper. In practice he always made due effort to bring down *both* legs in loosening the impacted breech, or in turning the child. The hand grasping both knees, or one knee or thigh, has always a more secure hold than by a foot, or even both feet, and the traction acts more directly and efficiently on the body.

DR. NEALE wished to say, in regard to Dr. Wilson's remark that he "always went for a foot" in breech cases requiring interference, that he believed there were many cases in which it was practically impossible to bring a foot down, as when the breech already occupied the pelvic cavity and could not be pushed up into the uterus so as to free a foot.

DR. THOS. OPIE read the history of three cases:

PREGNANCY COMPLICATED WITH LARYNGEAL PHTHISIS WITH SUBSEQUENT CONFINEMENT.

Case I.—Mrs. M., age 30, primipara, had suffered from severe pneumonia three months prior to conception. A brother had died of phthisis at about her age. Laryngeal phthisis set in about the middle of pregnancy. At the expiration of her eighth month, there was great dyspnea; pulse 120, respiration 30, temperature 102, and severe pain in the lower lobe of the right lung. This latter symptom was imputed to mechanical causes from the right lateral obliquity of the uterus. So great was the embarrassment of respiration and pain, that the idea of artificially inducing labor was seriously entertained. On the 19th, labor pains set in at 7 P.M. The dilating stage lasted five hours. At 1 A.M., the head was low in the pelvis, the pulse 160, respirations 60, sweating profuse, countenance indicative of great fatigue. The child's movements and pulse showed it to be well and strong. The forceps were applied, and the child delivered in excellent condition. There was no laceration of the perineum, and the uterus contracted well. There was no relief to the function of respiration. The pulse continued its same rapid stroke, the dyspnea was quite as great as ever, and death closed the scene as if from the accumulation of carbonic acid in the blood. The child was well developed and vigorous, having drained the mother for its own support. I presume there are few supporters at present of the theory that pregnancy retards phthisis by derivation and revulsion. This case seemed one in which the disease was aggravated, if not developed under the trials of gestation.

A UNIQUE PRESENTATION.

Case II.—Mrs. R. H. was delivered by me, in 1884, of a still-born child at full term. The os was dilated by Taylor's narrow-blade forceps, and the traction-rod forceps applied about the superior strait. The head not advancing under reasonable force, and the child being dead, cranioclasty was performed. Following her confinement she had severe metritis. In twelve months from

her first labor, I was called to her in premature delivery of a dead child at eight months. The presentation was, in my experience, unique. Both hands and one foot were presenting in the os, above the superior strait, and the funis was prolapsed into the vagina. Inspection and palpations showed the shape of the abdomen as well as the contour of the uterus to be normal. The child was doubled upon its abdominal plane, its dorsal region corresponded with the fundus uteri, the head was on the shelf of the right iliac fossa, the ulnar surfaces of the hands, and the os calcis of the presenting foot, looked towards the left iliac region. Chloroform was given to complete anesthesia. The missing foot was found, and this and its fellow seized, with my right hand only partially introduced into the cavity of the uterus. The left hand assisted in the act of version through the abdominal wall as in the combined or bipolar method, introduced by Braxton Hicks. The membranes had been ruptured for three days, but no serious difficulty was realized in turning the child. In view of the softened and yielding state of the child's tissues, it became most important that traction should have been made with both legs. The atony of the uterine walls fully compensated in turning for the disadvantage from the loss of expulsive power. When the head was extracted, the occiput was pushed up, the chin was flexed, and simultaneously pressure was made by an assistant. The position, as at first diagnosed, could only have occurred in a dead child. I think it was originally a right occipito-iliac position. The child, having lost its resiliency, first assumed, under the uterine contractions, an oblique position; and nature, unequal to the task of delivery by the head, began the work of self-turning by the feet. The patient made rapid convalescence, uninterrupted by a single abnormal symptom.

DIAGNOSIS OF TWINS. A DOUBLE BATTLEDOOR PLACENTA.

Case III.—Mrs. B., primipara, delivered, Jan. 5th, of twin girls, at the end of eighth month of pregnancy. Was called a month before labor to examine what proved to be a hernia in left inguinal region. An opportunity was given for thorough exploration of the abdominal tumor. Inspection and measurement showed the transverse diameter of the uterine globe to be as long as the vertical. Auscultation revealed, on the extreme right, a heart sound, and a loud placental murmur at a corresponding site on the left side. A number of small fetal parts, not clearly distinguishable, were found, too many, and some of them too far removed from the fetus on the right side to be imputed to that child. Twins were predicted. The placental souffle masked the heart sounds of the child on the left side. The first child was born after a tedious labor of twelve hours, the waters breaking in advance. The second child was born one hour later. The membranes broke when the head was dilating the vulva. The placenta were firmly

united, and the cords were inserted very near the ridge where they seemed welded together. They were so close together, and so near the line of union, as to give the appearance of a double battle-door placenta. Each fetus had its own amnion and chorion, but there was a common decidua. The close union of the placenta on the left side of the uterus, coupled with the fact that both children were of the same sex, makes it highly probable that the two ova were deposited in the same fold of the decidua vera, that they came from the left ovary, and were from the same Graafian vesicle.

DR. JOHN MORRIS reported the following case of

LABOR COMPLICATED BY PLACENTA PREVIA AND AN INTRAMURAL
FIBROID TUMOR.

On Sunday evening, January 3d, I was hurriedly summoned by Dr. William N. Hill, of this city, to a case of labor. The patient was in charge of Dr. Hill and Dr. I. I. Gross. Dr. Hill furnishes the following history of the case: "Dr. Gross first saw the woman last March, which corresponds with the date of her first month of pregnancy. He discovered a tumor in the left side which caused the patient to complain of pain, especially while standing. After rest for a couple of weeks, warm applications, the administration of narcotics and potassium iodide, she became convalescent and progressed favorably during the remainder of her pregnancy. On Saturday, January 2d, at 9 P.M., she was delivered, by a midwife, of a living child. Dr. Gross was called in at midnight and found the woman flooding from adherent placenta. He tamponed, gave ergot, and the hemorrhage ceased. Owing to the contraction of the os and the partial projecting of the placenta, a full examination of the interior of the womb was an impossibility, although the size and appearance of the abdomen were such as to lead Dr. Gross to the belief that there was a second child present.

"At 7 A.M. Sunday, the os was closed firmly on the projecting placenta; no hemorrhage, ergot continued. I was called to assist Dr. Gross at 4 P.M. on Sunday, and found the os dilated sufficiently to admit the hand partially. Portions of placenta, not adherent, taken away. Appearance of womb, as to size and irregularity, remained unchanged, although examination by touch revealed no presenting part or membranes. Pains slight and at long intervals. The progress of the case afterwards you yourself observed."

I saw the woman on Sunday evening, at 6 o'clock, twenty-one hours after the delivery of the child. She was a respectable, intelligent colored woman, over forty years of age. She was quite feeble and greatly exhausted from pain, loss of sleep, and anxiety of mind, as well as the previous hemorrhage. She was, however, very patient and hopeful. Fortunately the hemorrhage had ceased. I first examined the child, as I was very doubtful, from

the history given me, of the presence of a second one in the uterus. The baby was a healthy, wholesome little thing, and weighed about seven lbs. It was slightly larger than twin children usually are. I next made an examination of the abdomen. I found a tumor or hard mass, nearly the size of a small child. It was solid and unyielding to the touch. It was not symmetrical in shape, and lay chiefly on the left side of the abdomen. This tumor presented no angles or projecting points such as you would be likely to find in the case of a twin child. I then proceeded to make an examination per vaginam, and discovered the os partially closed, and the placenta adherent on the left side of the cervix and anterior portion of the womb. I found great difficulty in passing the hand, and consequently determined to administer an anesthetic. She came readily under the influence of the chloroform; I introduced my hand, broke up the attachments of the placenta, and removed it *en masse*. I then made an exploration of the uterus and found, as I anticipated, a large tumor. It was an intramural fibroid, and filled up the posterior and left lateral wall of the uterus. It terminated in a small pedicle or tumor the size of a walnut which, covered by the mucous membrane, projected into the uterus. The continued use of ergot had produced violent contractions, and pressed the tumor tensely upon the placenta, thus deceiving the gentlemen in attendance as to the true character of the mass felt by abdominal examination.

This case presents some very singular features. The fact that a woman over forty year of age, suffering from a fibroid tumor, filling up the greater portion of the uterus, should conceive, is, in itself, I think, an unusual circumstance. The attachment of the placenta to the cervix, thus occasioning a partial placenta previa, was no doubt due to the law of selection, inasmuch as the fundus did not afford the proper nutrient matrix for the support of the child. I would here remark that the woman had not been pregnant for twelve years. Her pregnancy in this instance was no doubt due to the accident of the ovum, which came possibly from the left ovary, finding a nidus in the healthy cervix. The case, taken altogether, is a profitable one and may possibly prove of service to all engaged in it. I had not met a similar one in an experience of forty years.

DR. B. B. BROWNE remarked that, about ten years ago, he had had a somewhat similar experience, the patient also being a colored woman. He was called to a case, which had been attended by a midwife, about twelve hours after the delivery of one child, to deliver the other which the midwife said was fast and could not come away. Upon examination, a sub-peritoneal tumor as large as a fetal head at full term was found. The tumor had attained this large size during the period of pregnancy. With involution of the uterus, the tumor decreased rapidly in size, and at the end of six months could scarcely be detected. This case was reported in the AM. JOUR. OBST., vol. x., p. 39.

DR. MORRIS asked Dr. Miltenberger's opinion as to the theory advanced in the paper, that the ovum had, by a law of selection, attached itself to the cervix, not finding a proper nutrient *nidus* in the body of the uterus.

DR. MILTENBERGER thought the theory a very plausible one.

DR. T. A. ASHBY asked Dr. Morris whether menstruation had occurred during pregnancy in the case which he had related. Several cases had been reported in journal literature where menstruation had continued during pregnancy, and the explanation offered was based upon the discovery of polypi and sub-mucous fibroids in the uterus. In the classical case reported, some years ago, by Dr. L. M. Yale, menstruation was observed in a pregnant woman, and, upon examination, a very small polypus was found and removed, and hemorrhage did not again occur during the pregnancy. Dr. Ashby was of the opinion that the explanation offered by Dr. Morris to account for the position of the placenta was a most rational one. The presence of the tumor had, no doubt, prevented the ovum from becoming engrafted upon the mucous membrane covering it; and as the tissues about the cervix were in a healthy condition, a favorable site was offered for the development of the decidua and the growth of the ovum.

The doctor then related the following history of a case which he had attended about a year ago: He was first called to see the patient during labor, and learned that she was over five months advanced in pregnancy. For two weeks she had been losing large quantities of blood, but this circumstance had not attracted serious attention until severe labor pains set in. Upon examination, he found the placenta firmly attached to the right side of the cervix, but a large portion which lapped over the internal os had become detached. Hemorrhage had resulted from this detachment, and the copious loss of blood had destroyed the life of the fetus which had evidently been dead for several days. The breech presented, and, after some delay in dilating the cervix, delivery took place. The placenta, being firmly adherent, was detached with some difficulty. The patient made an uninterrupted recovery. Dr. A. considered that the occurrence of the abortion had proven a conservative process, as the full development of the child would doubtless have led to more serious complications. In this case, there was no evidence of a fibroid tumor, but impregnation had followed pretty closely upon the birth of a child, which may have accounted for the occurrence of a placenta previa.

DR. MILTENBERGER said he thought that the presence of an intramural fibroid would not, as a rule, cause hemorrhage during pregnancy, although polypi are very apt to do so.

DR. BROWNE asked Dr. Miltenberger if it was not his experience that fibroid tumors increased very rapidly during pregnancy?

DR. MILTENBERGER replied that, at the moment, he remembered three cases of pregnancy complicated by fibroid tumors. In two of these, there was marked increase in the size of the growth during gestation, and rapid disappearance after confinement. Both occurred in young women.

DR. W. P. CHUNN thought that hemorrhage might be caused by the unequal contraction of different portions of the uterus, due to the presence of the tumor, which might also, to some extent, have prevented the expulsion of the placenta. Dr. Emmet had related a case in which alarming hemorrhage followed the ex-

traction of a submucous fibroid, and was only checked after a second tumor, which was found in the parenchyma, was removed.

DR. ROBERT T. WILSON referred to a patient of his who told him that the only time she menstruated or had any bloody discharge from her uterus was during pregnancy, but that during that period the flow appeared regularly each month, ceasing after labor had taken place. His patient was a white woman and had no fibroid tumor.

DR. MORRIS believed that hemorrhages during pregnancy did not result from intramural fibroids. As regards the prognosis in these cases, he felt safe in telling the friends that the tumor would disappear.

DR. BROWNE remarked that the existence of fibroid tumors in the uterus was a recognized cause of sterility; but when pregnancy does occur in such cases, the tumors increase rapidly in size with the development of the uterus. After delivery, with involution of the uterus, the growths quickly diminish in size, and frequently disappear altogether.

DR. NEALE referred to two cases, the history of which he had read before the Maryland Medical and Chirurgical Faculty.

Case I.—Mrs. A. P., æt. 28, was delivered of her fourth child after a perfectly normal and easy labor. A teaspoonful of fl. ext. ergot was given post partum, but a considerable bloody discharge, with severe after-pains, continued for twelve hours, when the patient expelled from her uterus a fibroid tumor which the doctor preserved. Its presence had not been suspected.

Case II.—Mrs. M., American, æt. 20, was delivered with forceps after a difficult and tedious labor. The uterus, after expulsion of the placenta, although firmly contracted, would not descend below the umbilicus. Both Dr. Miltenberger and Dr. N. made careful vaginal examinations, and diagnosticated a fibroid tumor, apparently about the size of a man's fist, in the posterior uterine wall. Nothing of special note occurred until the eighth day, when the patient passed from her uterus a fleshy mass described by the nurse as being "like a miscarriage, and resembling in consistence the gizzard of a chicken." It was thrown away by the nurse, but both physicians considered the case analogous to case I.

Dr. Neale considered these cases especially interesting as occurring in young white women, and thought the fact of spontaneous post-partum expulsion might have some bearing upon the treatment of prognosis.

DR. MORRIS referred to a patient of his, who, about eight days after each of her confinements, had passed a fleshy tumor from her uterus. Dr. Miltenberger had kindly attended this patient in one of her labors, for Dr. Morris, and had had an opportunity to examine one of these tumors. Dr. Morris has seen notices of similar cases in foreign text-books, but has never seen them in our own.

ABSTRACT OF PAPERS ON GYNECOLOGY

READ BEFORE

THE MEDICAL SOCIETY OF THE STATE
OF NEW YORK.*February 2d, 1886.*DR. A. VANDER VEER, of Albany, *President, in the Chair.*

In absence of the author, a paper sent by LAWSON TAIT, F.R.C.S., of Birmingham, England, on

METHODS OF DIAGNOSIS

was read by proxy.

“At a meeting of the New York State Medical Society, last February, my friend, Dr. Vander Veer, paid me a compliment of a most unusual kind, and for which no words of mine could possibly form an ample recognition.

Many of the sentences in Dr. Vander Veer's paper have given me food for thought, and I think that in many respects I have to be grateful to him for improvements in my details. One paragraph in particular has given rise to much introspection, and at first it alarmed me very much. It is this:—‘Mr. Tait does not give very much time to the examination of his patients, as a general thing. His manner shows him to have unbounded confidence in making an abdominal section, then treating whatever he may find.’ I do not believe for a moment, after very careful thought upon the subject, that Dr. Vander Veer arrived at the conclusion that my method of diagnosis was careless and irregular. It is perfectly true that I have unbounded confidence in making an abdominal section, and by long practice have achieved a facility for treating whatever may turn up. But I have satisfied myself that, though the time which I give for the purpose of examination of any particular patient, or of my patients in general, may be short; that that time is only relatively and not actually short, and I desire to say something about my methods of diagnosis in this paper, not merely for the purpose of defending myself from what would appear to be something like a charge of recklessness, but far more to speak, as well as I am able, upon the processes of diagnosis which are peculiar to the practitioner who is not engaged in clinical teaching.

There can be little doubt that the training of a teacher, which it is my misfortune never to have been, inculcates habits of precision and accuracy such as can be acquired in no other way. But, on the other hand, it involves methods of thought, and particularly

methods of diagnosis, which, whatever else they may do, involve very protracted methods of reasoning, and a considerable expenditure of time.

I find that their methods are pretty much to my own in the same relation as the multiplication table stands to the arithmometer. They arrive at conclusions identical; but my own methods—some of which are practically inexplicable, because I hardly understand them myself—certainly involve a great saving of time and trouble. Let me instance the method of diagnosis which we call palpation. An abdomen is submitted for examination, uniformly distended, and the question comes to be, first of all, as to whether the distention is due to an intra- or extra-peritoneal cause; as to whether this cause is a collection of fluid or the growth of solid matter; whether these causes may be mixed, and in what relation they stand to one another; what organs may be concerned in the treatment of the enlargement, and fifty other questions of more or less importance in deciding how the disease may be dealt with. A teacher approaches such a subject as this from an altogether different view, and in an altogether different way from those of a man who is engaged exclusively in practice. The teacher's desire is not only that he should arrive at a correct conclusion upon all the questions, or as many of them as are capable of solution, but that fifty or more young men, devoid of experience, may see the reasons and follow his reasoning upon all of these said questions. As these fifty men will move with progressively-increasing slowness in their mental action, it practically comes to this, that the process of diagnosis on the part of clinical teachers can only be made at the rate possible for the dullest pupils.

In the practice of the practitioner there is no such retarding influence, and his methods and his conclusions occupy just as much time as his mind would require to make them.

I need not say that, in addition to the absence of the retarding influence which teaching must exercise, another qualification of Dr. Vander Veer's views lies in the fact that my practice is restricted in area to an extent which has probably never before been attempted.

It is true about every human handicraft, that by restricting the area of production there is secured a much larger experience within that area, and the workmanship which results is very much better. This division of labor must lead to the same improvements and developments in surgery as it has done in everything else. Let me give a few examples, such as I have been able to establish in my own belief after much search, as to how a skilled workman may do with his fingers what the inexperienced may require special tools to enable him to accomplish. The school of French gynecology was once charged with an altogether improper, and indeed, as it was urged, a very indecent frequency in the use of

the speculum. On the other hand, the English school, with Simpson at its head, was fully as often and as loudly charged with an improper use of the sound. The conclusion that I have come to concerning both of these instruments and both of these disputes is, that both sides were right and both were wrong.

It is perfectly impossible for any novice in the diseases of women to obtain an accurate notion as to the condition of the vaginal mucous surface of the os and cervix, and to some extent the interior of the uterine canal, without the constant, I would almost say the invariable, use of the speculum. It is also quite as impossible for that novice to form any notion as to the position of the fundus, or the relation of the uterus with the pelvic tumor, without the employment of the sound. But no practitioner of gynecology can possibly be regarded, at least by me, as an accomplished specialist, who uses either one or the other of these instruments with great frequency. I have found in my own practice, that just as my experience increased so did both of them become unnecessary, until, concerning the speculum, it is a fact that, unless I want to do some operation, or make some special investigation within or beyond the vaginal cavity, the speculum is never employed at all; and for the discovery of the position of the uterus and its relations, the sound has almost ceased to be an advantage.

As a matter of fact, I have found that these two instruments, the speculum and the sound, as methods of diagnosis, have been productive of uniformly more harm than good.

One of the most important methods of diagnosis in abdominal disease, and the first to be considered in examining any case, is inspection, and concerning this method a very great deal of nonsense has been talked.

A careful examination, however, by the eye, of the contour of an abdomen, when the patient is lying on her back, with the walls of the abdomen perfectly flaccid, will reveal a good deal to the experienced practitioner. A completely and uniformly distended abdomen may mean that the patient is suffering from peritonitis, intestinal obstruction, ascitic effusion, a parovarian tumor, an ovarian tumor, a large myoma of the uterus, or pregnancy. The process of discriminating between these various conditions may very rapidly be completed by one who is accustomed to dealing with them. Thus peritonitis may be at once detected or eliminated by the presence or absence of the short and rapid pectoral breathing, which shows that the patient is loth to use her diaphragm. In fact, by this alone, and without almost any further inquiry, I have satisfied myself as to the nature of the case by a single glance. Ascitic effusion, on the other hand, is revealed at once by the absence of the pectoral breathing, by the greater flattening of the distention, by its tendency to assume a pyriform shape, the broadest diameter just above the pelvis, by the thickening of the walls due

to anasarcaous effusion, and the presence of white lines in the skin of the flanks.

If the crest of the ilium sticks out under stretched skin, the diagnosis is again almost complete without further inquiry. If, on the other hand, these subsidiary features are absent, and there be a uniform and complete distention, two conditions widely distinct may be suspected. These are parovarian cyst and hydramnios; and here, again, some very curious mistakes have come under my notice, some of which have had very ghastly results. Parovarian cysts after labor sometimes grow with astonishing rapidity. Hydramnios occurs always with twin pregnancies, and generally in unmarried women, who are, of course, disposed to conceal their unfortunate condition, and mere inspection cannot be depended on to discriminate these cases. But inspection will help us very largely to detect pregnancy and myoma, for in these cases the distention is always greatest either at the middle of the tumor or at its upper part, differing in this way completely from ascitic distentions; and here one of the most important agents in the diagnosis of abdominal diseases, palpation, comes at once to our assistance, and to the skilled fingers it ought not to take more than a few seconds to discriminate between all and any of these conditions. The percussion note, which is uniform in a case of peritonitis, will easily determine the condition which is present. One or two delicate touches of the fingers of one hand, while the fingers of the other lie, with the most gentle lightness, on the other side of the abdomen, will determine the presence of fluid, and it is in this method of palpation where the fingers of the skilled practitioner at once become visible. The inexperienced hands press firmly upon the walls, and may be seen to move to and fro in an aimless fashion, as if they intended to rock a cradle. The gentlest and tenderest touch alone will reveal what is required. A few trials of the different diameters of the abdomen will teach in as many seconds the leading features which are present: first, that there is fluid; secondly, that it is, or is not, near the surface, being contained, or not so contained, within a thin-walled cyst; thirdly, it is one cavity, or not; fourthly, the probable character which it presents. The wave excited by gentle tapping is retarded or urged on by the more or less gelatinous nature of the fluid. All these conclusions can be indicated with the utmost rapidity to the skilled fingers, and it is absolutely impossible to teach how this can be, save by the constant practice of the pupil. The parovarian cyst may be diagnosed entirely from one condition—that is, hydramnios; and partly by the thin walls, and partly by the presence of hydramnios, to which I have alluded, is very easily detected. Ascitic fluid is revealed in the same way, with the additional fact that here and there we get tympanitic percussion notes.

The large uterine myoma is defined by its firm sense of resistance, and its uniformly full and pseudo-fluctuation; also by the fact

that it has a smaller diameter at the base than it has at the middle or upper part. Pregnancy, the rock ahead to inexperienced practitioners, can be infallibly revealed by palpation. First of all, there is fluctuation due to the liquor amnii, and it can be easily detected; and this declares the cystic nature of the mass. If the hand be made to lie gently on the parietes for a few minutes, a rhythmical contraction of the uterus, by which at one time it is hard as a cricket-ball, at another soft as a cushion, will become perfectly apparent; and this is an infinitely more certain sign than the fetal heart, or the sound of the placental bruit. The fetal heart is a sound which may guide and sustain the practitioner in his conclusions, but it is so easily imitated by intestinal noises, and so difficult often to find, that it is not to be depended upon with perfect certainty. The placental souffle is probably more certain than the fetal sounds, but placental sounds are very often, in rapidly-growing tumors of the uterus, so completely imitated that there is always a certain amount of doubt connected with them; but the relaxation and contraction of the uterus in pregnancy is a method of diagnosis which, when once made apparent, can never be mistaken for anything else.

In all these details, the rapidity with which the practitioner will come to his conclusions will depend, of course, in the first place, upon the average rapidity of all his mental acts; secondly, upon the greater or less frequency with which he is called upon to make examinations involving these details; and, thirdly, as I have pointed out, whether he be retarded in his purpose by the obligations upon him to teach others. I feel, in analyzing my own actions in this matter, that they become so habitual to me that I record my conclusions almost without considering in detail the steps by which I arrived at them, and therefore it is not with surprise I now see that my friend, Dr. Vander Veer, has had some kind of justification in his statement that 'apparently I gave but little time for the general examination of patients.' But perhaps it is more in the examination of the pelvis, as I have already said, than in anything else, that this apparent rapidity becomes evident, and in striking contrast it stands out with the prolonged time employed for infrequent methods of examination, such as in the stethoscopic investigation of the abdominal walls for the finding of the fetal heart.

I have, as Dr. Vander Veer has quite truly said, an unbounded confidence in the performance of abdominal sections, and I have argued again and again for the extended frequency of exploratory incisions for the purpose of securing complete accuracy of diagnosis; but, and this must never be forgotten, only on the grounds that, with the completion of the diagnosis in this way, there is at the same time opened out the only road for successful after-treatment. But I must ask that no one who has followed the course of my work will dream for a moment that I pass on the latest side

in a difficulty of complete diagnosis to the early side of the issue by its completion in the performance of a laparotomy. To those who are opposed to my views in this matter, of course, nothing is easier than to argue, by means of a charge of recklessness, against my new doctrine. But that such a charge is not to be justified, my results can, very speedily determine. That a complete and satisfactory diagnosis can ever be made, save in the simplest condition of disease of the abdomen, without an exploratory incision, I have repeatedly denied. I have said over and over again that the abdomen is a region of darkness, and the man who is most sure about this diagnosis is the man who will be most frequently in error. But this does not mean, nor has one word which I have ever written been intended to mean, that every method that is possible for a correct estimate of the nature of the disease should not be exhausted before the abdomen is opened, either for the purpose of diagnosis or treatment, or both combined. Unless this doctrine be most carefully observed, mistakes of the most ghastly and fatal kind will inevitably arise, and they will arise in two conditions from which, I am proud to say, my own practice is absolutely clear.

If I may, in conclusion, take one more illustration to show how completely the results of daily practice, or what may be called rule of thumb, may triumph over the mere teaching of the schools, I would mention the much-discussed bimanual method of examination. I read recently a long rigmarole of nonsense by a German, who evolved from his superabundant inner consciousness, but not from clinical experience, the conclusion that no man could properly examine the pelvis in this way unless he had the patient on her back, turned in the lithotomy position, he being placed opposite the perineum. In the first place, English women would not submit to such brutality, and it is wholly unnecessary. The most complete and satisfactory examination of any woman's pelvis can be made while the patient lies quietly on her left side in bed, without the exposure of one square inch of her skin. Any man who requires more than this is either a pupil or a dullard.

So it is with such a special instrument as Sims' speculum. I have heard some of my American friends say that it is impossible to do any operation upon the vagina satisfactorily without it. All I can say is that I have now cured some three hundred cases of vesico-vaginal and recto-vaginal fistulæ, never having failed in any case, nor having ever refused one, and I habitually pass the sutures with my finger-tips, wholly unaided by speculum of any kind."

DISEASES OF THE FALLOPIAN TUBES.

DR. W. GILL WYLIE, of New York, read a paper on the above subject in which he reported cases, and exhibited characteristic specimens. Between May, 1883, and Feb. 1st, 1885, he had operated on 37 women for the removal of diseased uterine appendages. Of these patients, thirty-three recovered and four died.

Two of the latter were complicated by pelvic abscesses at the ends of the tubes and around the ovaries; a third was complicated by hematocele attached to the left ovary; and the fourth, on account of extensive adhesions and degenerated state of the ovaries, required considerable exposure of the peritoneal cavity in operating. Thirty-four of the thirty-seven cases had marked peritoneal adhesions. More than one-third were well-marked cases of pyosalpinx, and nine were either complicated by abscesses or the tissues about the tubes and ovaries were infiltrated with pus. If one would follow the text-books on gynecology, most of these thirty-seven cases would have been classed as chronic cellulitis; four or five would have been called cases of pelvic abscess, and quite a number would have been called ovaritis.

With the exception of three or four cases operated upon for cystic degeneration, which was supposed to be the cause of hystero-epilepsy, almost all were at times bedridden by repeated attacks of local peritonitis. It is yet too soon to speak positively about the results of the operations in all classes of cases, but he could say without hesitation that, in those cases where the subjective symptoms were chiefly actual local pain and physical inability to go about without causing persistent pain—and almost all of the cases of pyosalpinx would come under this head—the results were good and satisfactory both to the patient and doctor. In many cases the relief from pain was gratefully acknowledged at once.

In those cases where the subjective symptoms were chiefly reflex, and of a nervous order, the immediate results were by no means always satisfactory, although many completely recovered after seemingly being unimproved for several months. He had repeatedly refused to operate on this class of cases, unless he could plainly make out by bimanual examination that the ovaries were enlarged by cystic degeneration.

If his views on the surgical pathology of diseased uterine appendages were correct, it was easy to explain why, if pelvic abscesses were really abscesses beginning in intra-peritoneal tissues, they should nearly always penetrate below the peritoneum, and only now and then cause general peritonitis by breaking into the peritoneum.

Again, they would also explain why the bladder was, comparatively speaking, so seldom involved in peritoneal inflammation, and why the indurations and thickenings due to inflammation of the peritoneum, even when below the plane of the vaginal junction, were found to be, not indurated cellular tissue, as Dr. Emmet had said they must be if below this plane, but were really the prolapsed ends of the tubes and ovaries surrounded by inflammatory exudation, as is now so frequently shown by laparotomies and autopsies where the indurated cellular tissue so much written about by some of our most honored teachers has been searched for in vain.

His views would also explain the real significance of a retroversion and lateral version with adhesions, and explain the great difficulty in getting satisfactory results in such cases from the use of pessaries, and also explain why their use was, now and then, followed by attacks of local peritonitis.

To clearly understand what takes place when the uterine appendages are diseased, it is necessary to remember that the broad ligaments are attached to the uterus from the vaginal junction nearly to the top of the fundus on either side, and extend laterally to the side of the pelvis where they are attached in such a way that they cannot be shortened by contraction or thickening of the tissues, or twisted either forward or backwards without more or less displacing the uterus, or rendering it immovable to some extent; that the ovaries lie partly imbedded in the peritoneum that covers the posterior walls of the broad ligament; that the Fallopian tubes run along the upper and anterior border of the broad ligaments, and are covered by the same fold of peritoneum that covers the broad ligament except at their fimbriated extremity, where they open directly into the peritoneal cavity; that one of the fimbriae of each tube attaches it to the ovary of the same side and holds its open end in such a way that any fluid escaping from it, would fall behind the broad ligament, especially when the patient is in bed or on her back. Now if the upper border of the broad ligament is carried backward and downward, not only is the tube and ovary prolapsed, but the fossa behind the broad ligament and in front of the posterior wall of the pelvis is covered over by the broad ligament with the tube and ovary rolled in behind it, and if the broad ligament is made adherent in this position, practically the tube and ovary of that side are turned out of the cavity of the peritoneum. If this be true, it is easily understood why an abscess found in the end of a tube or in the ovary will more frequently penetrate into the connective tissue below, instead of upward through the several layers of the whole thickness of the broad ligament, so rich in blood-vessels, which are well prepared to resist ulceration and perforation. In those cases where he had seen perforation into the peritoneal cavity, the distended tubes or suppurating ovary had not been rolled up in the broad ligament, as was the rule when they were diseased.

The first effect of disease reaching a tube was to cause it to become engorged with blood; and as it was loosely attached to the upper border of the broad ligament, it sank in the pelvis, covering or folding over the ovary; and as the beginning of the salpingitis, after labor or an abortion, was so often associated with an enlarged uterus, that organ also sank; and as the patient during the acute stage was, as a rule, on her back, the fundus inclined backward. Now, suppose the uterus to be enlarged, lying backward, and that the disease affecting the uterus extended to the tubes,

they swelled, sagged backward and downward, covering the ovaries, and as soon as the discharge or the disease reached the peritoneum through the open end of the tube, the peritoneum became inflamed, and lymph was thrown out which glued the different organs together. The end of the tube and ovary being imbedded under the broad ligament, which finally adhered to the tissues on the posterior wall of the pelvis, they were virtually shut out from the peritoneal cavity. As the acute stage subsides, and plastic material contracts, the adhesions draw and distort the organs, and the folded, twisted, and adherent broad ligament holds the uterus in its backward displacement. Moreover, the tube being small, especially the displaced uterine end, the lumen is stopped, the discharge accumulates, distention occurs, leakage into the peritoneal cavity takes place, a fresh attack of peritonitis develops, more lymph is exuded, and as the acute stage subsides, the tubes and broad ligaments are rolled back and folded more and more. Thus we have cases of retroversion with adhesions, and it is the rolled up ligaments and the tubes which fix the uterus backward; and it is the imbedded ovary and diseased tube in the hardened tissues of the broad ligament which makes it next to impossible to insert a pessary and hold the uterus up without causing pain, and running the risk of bursting or tearing a tube distended with septic or irritating fluid. When only one tube is affected—it is usually the left—the retroversion will be less.

The discussion was opened by DR. PAUL F. MUNDÉ, of New York, as follows:

“I have listened with pleasure to both of these papers, and will first say a few words upon the very interesting paper of Mr. Tait, in which the author has expressed his views in his usual forcible manner, not only as to what he himself believes and practises, but also as to what he thinks of others who do not believe and practise what he does. I may say that in many things I agree with him. I think he has demonstrated that, in his hands at any rate, exploratory incision and abdominal section is a comparatively safe procedure. But I certainly do not think that the majority of the profession, nor even the majority of gynecologists, are prepared to accept his dictum, made in his usual positive manner, that ‘when you do not know exactly what the matter is with a woman, cut her open and find out. And I do not think that any good will come to abdominal surgery from going to extremes of this kind. I am quite sure that in many cases the patients would be benefited if the abdomen could be opened, and the diagnosis made by such an expert as Mr. Tait, or by some one equally competent in the operation; but to inculcate such practice upon the general profession is, I think, going decidedly too far. We all know that Mr. Tait, in England, has had results which perhaps no one else in the world has had; certainly no one in this country has approached him. Dr. Wylie has probably had as good results as any operator in this country. At the same time, others of us have done the same operation, and we have not been so successful, and I do not think that we can be called tyros, nor can the fail-

ures be said to be due to faults of our own. The operation of abdominal section is, has always been, and always will be, a dangerous operation from which the patient may die. And if we are assured from the other side of the Atlantic that the patients nearly always recover, I can only say that they do, in some hands, but with the majority of operators all over the world, the results are always doubtful. I think it necessary to emphasize the fact that, as long as the operation in itself is a capital operation, it should not be lightly performed, and not performed for purposes of diagnosis until we have exhausted all other means at our disposal to make a diagnosis, at least with fair certainty. As regards the difficulty of making a correct diagnosis of the physical condition in these cases of pelvic disease, even when one is expert in bimanual examination, I may relate the following case: I saw a patient from Stamford, Conn., about a year ago, sent to me with all the evidences of salpingitis, oöphoritis and peri-oöphoritis—conditions which are almost invariably more or less connected; for inflammation of one of these organs generally causes inflammation and agglutination of those adjacent. I demonstrated to my satisfaction, and to that of the gentlemen present at the Polyclinic, that there was a distinct enlargement of the tube on one side. We could feel fluctuation and outline a cystic tumor. There appeared to be no doubt about it. The patient had all the symptoms which in such cases are considered to demand an operation. On opening the abdominal cavity I could not map out anything except a mass of exudation, enveloping the whole of the broad ligaments, tubes, and ovaries. I thought I could feel something in the mass, probably the ovary. I could not pick up any distinct organ, but passed my ligatures as deeply as I could, tied on either side, and seared off an elliptical slice above. The patient recovered, and although still menstruating, is entirely relieved of all her symptoms. Thus a diagnosis, which I considered as perfectly evident, turned out to be a mistake. And I must confess that, inasmuch as in this case a mistake was made, I think other surgeons may make mistakes. If I had not opened the abdominal cavity I should have felt sure that my diagnosis of a tubal *cyst* was correct. Of course, the indication for removal of the diseased mass would remain the same.

Mr. Tait says that an examination can be made as well on the side as on the back. I do not agree with him, because we know that, when a patient lies on her side, the abdominal viscera, including the uterus and the ovaries, tilt over to that side. If the uterus is retroflexed and movable, it will tilt over, and the change of position of the other abdominal organs will interfere with the diagnosis. Bimanual examination, in my opinion, should usually be made with the patient on her back, the knees drawn up, and the patient so covered that she is not at all exposed. Not an inch of her skin need be seen in making a bimanual examination in the dorsal position, and certainly no 'brutality' need be employed in such an examination.

As to passing sutures in vesico-vaginal fistula without a speculum, I think very few men would think of doing it except Lawson Tait, since it is much more easily and safely done through a Sims speculum.

Now, I am very much interested in Dr. Wylie's paper, for he and I have had several tilts already on some of the points. I do not intend to have another tilt with him now, but I do not agree with him on some points, while I do agree with him on others, chiefly as to the frequency of these diseases (salpingitis, especially purulent salpin-

gitis, catarrhal salpingitis, salpingitis associated with localized peritonitis, and oöphoritis), and the evil influence of these conditions on the patient's health, often interfering with her functions as a wife.

But while we admit the great frequency of these cases and the importance of the influence which they exert on the woman's health, it does not by any means follow that we must remove those appendages simply because of these symptoms. It is not my intention to enter upon that part of the subject, since the author has wisely kept clear of it. I agree further with Dr. Wylie as to the anatomical relations of the broad ligaments and of the ovaries to the posterior pelvic peritoneal pouch. These facts are not new, but they explain, I think, exceedingly well the way in which the ovaries and tubes become diseased, enlarged, thickened, and drop backward, become adherent, and are kept in that position. And I think that probably in a large proportion of such cases with retroversion of the uterus, Dr. Wylie's explanation of the retroversion is correct. But we have many cases of adhesion of the retroverted uterus in which the tubes and ovaries are not diseased at all.

But I cannot agree with Dr. Wylie in making it appear that so-called pelvic abscess, that is, abscess in the pelvic tissue *outside* of the peritoneal cavity, is the same as pyo-salpinx or pus collected in the cavity of the dilated Fallopian tube. I think these two conditions are totally dissimilar. Pyo-salpinx is often, in its beginning at any rate, a movable mass situated in the peritoneal cavity. Pelvic abscess is outside, in the cellular tissue. Now, I will admit that a pyo-salpinx or a tube dilated with pus may become adherent to Douglas' pouch, may gradually perforate into the pelvic tissue, or again the tube may perforate into the vagina, or into the peritoneal cavity, which latter is by far the commoner direction for rupture in pyo-salpinx. I have never seen a case of pelvic abscess proper rupture into the peritoneal cavity, because it is easier for it to point toward the vagina, rectum, etc., in a downward direction.

As to operation in these cases of pyo-salpinx, there are two different ways of operating. For instance, a movable pyo-salpinx which feels like an ovarian cyst should be operated upon by abdominal section. But when there is a dilated tube filled with pus (I am not speaking of a simply hypertrophied tube but a dilated tube filled with pus) and adherent to Douglas' pouch, so that it can be plainly felt, and cannot be pushed up, I think the simplest treatment in such a case is to make a diagnosis by aspirating through the vagina, and then make an opening by means of a bistoury and introduce a drainage tube. Of course, this idea is not new, but the differentiation in the two cases has not, I believe, been made by the reader.

A collection of simple fluid in the tube, a hydro-salpinx, does not, in my opinion, require abdominal section. I have treated a number of such cases successfully by aspiration through the vagina. The aspiration was made for the purpose of diagnosis. I did not know what the nature of the case was until I had aspirated, but finding that there was simple fluid, I withdrew it. In one case the cavity refilled, but in the others, the tumor collapsed, and there was no relapse or reaction after the aspiration.

There is one pathological condition of the tube which is difficult to diagnosticate, and which renders the indications for an opera-

tion very obscure: that is, in cases in which there is a diffuse, slightly movable mass felt at the side of the uterus, without any fluctuation. I have removed several such enlarged Fallopian tubes with enormously hypertrophied muscular walls, but without dilatation of the canal, which was even constricted. Prof. Kaltenbach, formerly of Freiburg, is, so far as I know, the only operator who has recently spoken of this muscular hypertrophy of the tube, which he believes to be produced by atresia or stenosis of the tube, the obliteration occurring chiefly at the abdominal orifice. Bimanual palpation revealed a diffuse tender swelling to the side of the uterus, which formerly would have been taken for a pelvic cellulitis in cases of doubtful diagnosis. Some of these patients complain of constant pain, and require to be operated upon. This is the only way of curing them. Others have pain only during menstruation, and not during the interval. In these latter cases we should first try other measures than operative, and I have succeeded in relieving some such cases by persistent counter-irritation and galvanism. While I feel that nothing will cure any of these cases but laparotomy, I still think we should choose our operative cases more carefully than the teachings of Mr. Tait would lead us to do."

THE PRESIDENT, DR. A. VANDER VEER, of Albany, N. Y., wished to make one or two explanations; one in his own behalf. Some time after the meeting of the Society last winter, while looking over his manuscript as it came from the printers, he was somewhat startled at that very statement which Mr. Tait caught up so quickly. He said to himself, "It is possible I have made a mistake. It may be that Mr. Tait had examined these patients previously to my seeing them with him, or previous to the time of operating, and that I erred. I felt in that state of mind for some time. It occurred to me to write to Mr. Tait for a paper, and I find now that I had not erred entirely; that he does not take so much time for his examinations as other surgeons. Now, I believe with him that the reason why he does not make fatal blunders in diagnosis, and the reason why he is so successful is the fact of his experience. He devotes his entire time to this particular subject of abdominal surgery. I occupy the ground as a general surgeon with a strong tendency to abdominal surgery. Whether I shall remain in that field, I do not know. I like it much. But we do not get the cases which Mr. Tait does. He receives cases every day from all regions. Physicians send their cases to him. He has a larger range, perhaps, than any other man in the world. He has but one competitor in Birmingham, Dr. Savage, who is a good man, doing clean work. While Mr. Tait may make use of strong expressions, at the same time I do not think they are rash expressions. I believe that he has authority to back him up in the experience which has accumulated in his hands.

I do not believe that the profession in this country, nor in England, fully appreciate yet what the Tait operation is. I have a case in mind to illustrate that. Mr. Tait believes that if the ovary or any portion of the tube is diseased, the entire appendages should be removed. If there be a pyo-salpinx, or a hydro-salpinx, or an inflammation of any portion of the tube, remove the entire appendage.

I have now under treatment a patient operated upon by Dr. Thomas some ten years ago, reported in the *New York Medical Journal* as a case of ovariotomy. The patient was relieved for

some time, but for four or five years she has been suffering from well marked pyo-salpinx, the discharge of pus now taking place occasionally through the uterus into the vagina. Now if in this case there had been removal of every portion of the tube, I am inclined to think there would not have been this return of the trouble.

It seems to me that Dr. Mundé is quite right in his criticism of Mr. Tait regarding the position for examination. I do not believe one can make as good and thorough an examination with the patient lying upon her side as upon her back. Dr. Mundé's statements in regard to Dr. Wylie's views concerning cellulitis, salpingitis, etc., it seems to me are very much in the right direction.

In looking over my notes of cases and autopsies made some years ago, I can recall two cases of well-marked pyo-salpinx and one of hydro-salpinx, in which death took place from discharge into the peritoneal cavity, and in the light of the present day I cannot help thinking that they were cases proper for an operation, and in the hands of Mr. Tait, life might have been saved.

Dr. Wylie's very valuable suggestions show that he has gone over this field thoroughly. How utterly useless for a patient to wear a pessary when there is associated salpingitis! The case in which Dr. Wylie thought of operating in the midst of an attack of peritonitis, but did not reach the patient in time, belonged to that class of cases which Mr. Tait lays a great deal of stress upon. I really think he would operate upon a patient with acute peritonitis, even if she were almost dead, his faith is so great.

With regard to sponging out the abdominal cavity, Mr. Tait lays a great deal of stress upon this point. He takes warm water and sponges out the peritoneal cavity thoroughly. His success must be acknowledged, for look at his one hundred and thirteen consecutive cases of ovariectomy without a death. This must be due to cleanliness, to the care he takes, to the fact that he operates in a special hospital. I am inclined to think that we general surgeons must, if we work in this field, take hold of it as a special work. I cannot believe that doing ovariectomy around at different houses will ever meet with much success.

Mr. Tait operates in his own hospital, keeps his patients under his own observation, under his own hands, watching them with much care, and exercising the greatest cleanliness. Under these circumstances, and with his experience, he is entitled to credit.

DR. WILLIAM HAILES, JR., of Albany, said he recently made a post-mortem examination and found a condition which he would like to have some of the gentlemen present throw some light upon. The body was that of a woman 28 years of age, well nourished, weighing in the neighborhood of two hundred pounds. The abdominal walls were very thick, and their contour gave no evidence at all of any tumor within. But when the pelvic viscera were examined it was found that there was ovarian disease on both sides. The left ovary had a multilocular cyst about the size of a lemon. The right ovary had undergone cystic degeneration, one of the cysts being much larger than the rest, with transparent and exceedingly thin walls, which burst when the hand was passed gently over it in an attempt to reach the pedicle. He felt quite sure that, if this woman had during life met with any injury, as a light fall, this cyst would have burst, and he would like to ask what would have been the result of such an accident.

DR. WYLIE, in closing the discussion, said: I am sorry that some

of the general surgeons present did not speak, for we are in need of their experience to help us. I will leave my paper to answer most of the remarks made upon it. I think that any one who is operating or expects to operate should make a careful study of the anatomy of these parts. With the exception of three or four, all of the cases I have related gave a history of peritonitis, and evidence of the same was found at the operation, yet not in a single instance did I fail to get both ovaries and tubes. So I am not in fear of adhesions which have formed in that way. If you go about the operation as I have stated, unfolding the tubes, you can overcome the adhesions. This is the reason why I find it necessary to make only a small opening, and I believe that a small abdominal opening is one cause of Mr. Tait's success.

As to pelvic abscess, in three of these cases there was pelvic abscess as distinctly as could be, for they were as low down in the pelvis as possible without going through the vagina. In one case the symptoms were so slight that the patient was going about constantly, yet I believe that, if the operation had been postponed until after the next menstruation, she would have died of general peritonitis.

Dr. Hailes has mentioned an autopsy at which he found an ovarian cyst with transparent and exceedingly thin walls, and expresses the opinion that a slight jar would have caused it to burst during life. I am confident that it would have so burst, for I have known a cyst to rupture in more than one case from pressure through the vagina. The result was not injurious. Only a slight local peritonitis is caused, and with such thin fluid it is hardly worth while to wash out the peritoneal cavity.

DR. W. B. CHASE, of Brooklyn, asked concerning the connection there might be between gonorrhea and disease of the Fallopian tubes.

DR. WYLIE replied that this was a very broad question, and could not be fully discussed here, but he would say that he thought many cases of pyo-salpinx were undoubtedly due to a septic endometritis especially liable to follow abortions; but that gonorrhea is sometimes a cause there is no doubt. He did not think, however, that it is so frequently the cause as has been claimed by Dr. Noeggerath, of New York.

REVIEW.

PUERPERAL CONVALESCENCE AND THE DISEASES OF THE PUERPERAL PERIOD. By JOSEPH KUCHER, M.D. New York: J. H. Vail & Co., 1886. Pp. 311.

To many readers this unassuming little volume will possess a significance greater than would be inferred from its modest title-page. It will be specially interesting to those who are personally acquainted with the author, and know him to be a foreigner who has adapted himself to our American ways with a grace and rapidity seldom exhibited by his professional countrymen who cast in their lot with us. We are glad to welcome Dr. Kucher's book as an exposition of that school of midwifery that has exerted such a deep and invaluable impression upon the rising generation of obstetricians. In turning over its pages, visions of the old

familiar "Kreisesaal" rise before us, the row of students zealously scrubbing their fingers at the mandate, "Jesinficiren, meine Herren!" the eager group clustering around some interesting case, the anxious look of the embryonic obstetrician as he reaches the object of his ambition and grasps the forceps for the first time, overwhelmed by the mighty responsibility of introducing the proper blade first and sparing the perineum. Restraining our errant imagination and confining ourselves to the sober facts, we are struck with a certain unique feature in the work before us. It is thoroughly German, and yet it is not German. The author is firmly imbued with the idea that Vienna midwifery is "hard to beat" (and he is right), while at the same time he has not fallen into the error so common to German physicians, of stubbornly refusing to adapt themselves to their American environment. If, as a class, they would only recognize and appreciate the fact that they are themselves to blame for our apparently cold reception of many of their ideas, because of the ungracious manner in which they seek to force them upon us, their influence upon our profession would be far more decided than it is. The Germans cannot accuse us of undervaluing their intellectual power; the only trouble is, that the average American objects to being told bluntly that he is a fool (even when he knows it). Administer that truth in a sugar-coated form and he will swallow it readily enough. This digression may be allowed when we state that it is explanatory of our opening sentence—that Dr. Kucher's book is significant in that it presents German ideas in such an American form, that it goes far to disprove the wide-spread belief that no German can ever become Americanized. One fact is apparent at a glance, even if the author had not called attention to it in a rather lengthy preface. The book is written by a practical man for practical men. Familiar as most of the subject-matter is, it is not the compilation of a beginner. Any one with but a tithe of the writer's experience might have written the same volume, but the reader would not have failed to recognize the absence of that personal knowledge which alone entitles an author's words to respect. With a rare self-restraint in one of his nation, Dr. Kucher has avoided those long and rambling discussions which mar so many otherwise excellent German treatises, and has omitted the copious references to foreign literature that so appall the general reader. What he says, he knows; what he describes, he has seen. His pictures of disease are not those of the novelist; he has, to use a vulgar but expressive phrase, "been there." Uneven and condensed as many chapters appear, the general impression conveyed by a reading of the book is that the author had material enough for a work far more ambitious, but wisely preferred to say too little rather than too much, keeping back a large amount of reserve force for another occasion. Having acknowledged frankly our approval of the purpose and general scope of the book, we feel at liberty to be equally frank in our criticism of some of its weak points.

Before examining each chapter in detail, we cannot escape the impression that the arrangement of the subject-matter is not pleasing. Not that it is wanting in system, but the system is faulty. From the title we assume that the volume consists of two main divisions, the first being devoted to the normal puerperal state, the second to the abnormal. It would have been well, in the interests of the general reader, to make this distinction more clear by stating that the second portion begins with chapter V.

And then the term "diseases"—what is included under it? From the table of contents we see that the list begins with simple abscess of the breast, goes on to post-partum hemorrhage, skips back to thrombus of the vagina and vulva, then advances to those formidable complications, rupture and inversion of the uterus; then succeed albuminuria, eclampsia and phlegmasia alba. We are next, by a sudden transition, introduced to the subject of relaxation of the symphysis pubis, followed by tetanus, puerperal mania, sensory motor disturbances, embolism, and, as a *grande finale*, puerperal fever—the last, we may add, being practically a separate monograph. Now, we leave it to the impartial reader if this order is not a singularly original one, and the sequence rather difficult to trace. Every author has a right to designate the order in which his chapters shall come, but the general effect in the present instance would certainly be more effective if the "diseases" and "accidents" (for is rupture of the uterus properly a "disease?") were grouped together. The transitions would certainly be less abrupt than they are under the present arrangement.

As before stated, the first four chapters, or rather the second, third, and fourth, treat of normal childbed and its management. Chapter I. contains some sensible remarks on antiseptics, which are distinguished by an absence of those extravagant statements that are so frequently made by enthusiastic supporters of this or that germicide. There are not a few homely aphorisms which will bear quotation. "To dip the fingers or instruments in some antiseptic fluid is not sufficient, if a thorough cleansing with soap and water has not preceded the use of antiseptic lotions" (page 21). "Long finger-nails are as useful for an obstetrician as sand in the shoes; the sooner we get rid of both, the better" (page 22).

Chapter II., on "Normal Childbed," is divided into a number of sub-headings, under which the author discusses briefly the condition of the uterus immediately after labor, retention of urine, the pulse and temperature, after-pains, the lochia, diet and the care of the bowels. It is unnecessary to refer to these sections in detail, since the reader will not find in them much that is new. The remarks on the contraction of the uterus after delivery are essentially the tenets of the Vienna school. "The main reliance," says the author, "is placed on external manipulations." Ergot is unreliable. We commend the views concerning the doubtful value of the binder after delivery. "Good involution of the abdominal walls by the recumbent position and good nourishment," in Dr. Kucher's opinion, "contribute more to the preservation of figure than a binder can" (page 23). He rightly believes that the only service rendered by this traditional appliance is to support the lax abdomen, while it very often does positive harm to the patient by crowding her uterus into the hollow of the sacrum.

In the chapter on "Lactation" there is a brief discussion of the subject of milk-fever, a febrile condition which is characterized as a "bug-bear," that has "lost all its terrors now." The elevation of temperature is readily explained, the writer thinks, by septic absorption from the genital tract, intestinal disorders, or mental excitement. Chapter V., on "Mastitis," is excellent. The author's remarks on treatment are marked by that prompt, decisive tone which show that when he believes that the knife is necessary he does not use it with a timid hand. Conservative up to a certain point, his teaching with regard to surgical interference is not wavering.

Chapter VI., including pages 72 to 92, dealing with the important subject of post-partum hemorrhage, is rather disappointing, since, instead of devoting his limited space entirely to the symptoms and treatment, wherein lie his strong points, Dr. Kucher gives one-half of the chapter to the etiology of the accident. The pages on treatment (83 to 92) are only fair. Contraction of the uterus is the one thing to be aimed at, and this is best effected by manipulation. He takes issue with Barnes on this point, and rightly so. Introduction of the hand into the uterus should not be practised "unless other measures fail." The latter phrase is rather vague, but, from the context, we should infer that the author hardly regards this procedure as a *dernier ressort*, but as one to be employed in case of failure to secure contraction by external friction. He has given up his Vienna practice of using cold intra-uterine injections and now prefers hot water. If necessary, he does not fear astringent injections, a weak solution of perchloride of iron being the one which he employs. Emphasis is laid upon the caution that the uterine cavity must be empty before injecting the styptic, and that the solution must be allowed to escape freely. He refers doubtfully to the introduction of ice into the uterine cavity, as if he had had no personal experience with that valuable agent. "In desperate cases," he says, "the compression of the uterus between both hands, one in the vagina or uterine cavity, the other on the fundus, might be useful." This is but faint praise for a measure which, after all, is the treatment *par excellence* of severe post-partum hemorrhage. In discussing after-treatment, Dr. Kucher speaks warmly of the great value of bandaging the extremities ("auto-transfusion" he styles it) in extreme cases of collapse. "Transfusion," he says, rather unjustly, "is a very pretty exhibition for a clinic, but has not yet given any encouraging results." Dr. Kucher is certainly aware that this operation has become quite popular, and not unsuccessful in Germany since he left Vienna. Passing over a short chapter on thrombosis of the external genitals, which hardly deserves such prominence in a small volume like the present one, we come to Chapter VIII., on "Lacerations," under which are included every degree of lesions of the genital tract, from slight tears of the labia to rupture of the uterus. Pages 99 to 105, treating of laceration of the perineum, its prevention and treatment, present a clear, practical view of the subject. It is unnecessary to dwell upon the advantages of the Vienna method of supporting the perineum, as described so graphically by the author (pages 102-103), since its value has been attested by all who have taken the trouble to learn and practise it. In spite of the small favor with which the little operation of episiotomy appears to be regarded by many New York obstetricians, we have seen too many perineae saved by a timely resort to it, to accept the common fatalistic idea that if a perineum has begun to tear, there is no use in trying to prevent it. In reading the author's description of the primary operation for the repair of laceration of the perineum, we cannot help thinking that his ideas have been somewhat modified by his residence among us, since this procedure, as we remember it in the Vienna lying-in wards, used to consist in simply catching up the edges of the skin with a small amount of the subjacent tissue. It would have been better to have omitted entirely the section on rupture of the uterus, since the space allowed to this important subject is only two pages, in which it is impossible for the writer to do

himself, or his theme, justice. A chapter (the ninth in order) on "Inversion of the Uterus" follows. Since, as the author states, the accident is such an extremely rare one, it is strange that he should have thought it necessary to admit the subject into a short, practical treatise. He makes the process of reduction so easy, that his description is entirely at variance with the experience of those who have had cases of their own.

In chapters X. and XI. on albuminuria and eclampsia, the author enters into a consideration of pathological questions more extensively than is his wont. Moericke is the principal authority quoted. The treatment of albuminuria is well stated. Instead of the actual hot bath which we have so often seen in use in the Vienna clinic, we would suggest to Dr. Kucher that the method of introducing hot air or steam beneath the bed-clothing, by means of the simple apparatus employed in our general hospitals, is equally successful in promoting free diaphoresis, and is far less exhausting to the patient. The various theories put forward in explanation of the phenomena of eclampsia are briefly mentioned. "Instead of accepting pressure as the universal cause," says the writer, "I believe it to be more in accordance with all the facts to regard the enlarging or contracting uterus as capable of producing stretching, flexure, or infraction of the ureters." This, by the way, is merely his opinion, which, according to his own confession, is not founded upon actual anatomical observations. Assuming that the mechanical theory is correct, it is hardly necessary to seek to define the exact character of the obstruction. Eclampsia, he considers, is due "to the same causes as uremia, that is, retention of the urine and its ingredients" (?) Chloroform and venesection are dismissed as unsatisfactory agents in the treatment of eclampsia; pilocarpine is also regarded with some disfavor. The remarks concerning the important question of hastening labor in cases of eclampsia (page 142) are too brief and general. Following the short chapters on phlegmasia and tetanus, which, as we have said, appear out of place (sandwiched, as they are, between the preceding medical subjects, and the succeeding chapter on puerperal mania), we find several odds and ends, the omission of which would not have detracted from the usefulness of the volume. With chapter XIX. we begin what is really the part of the book that arrests our attention—the short monograph on puerperal fever. This it is a pleasure to read, after the epidemic of loose disjointed theories regarding the nature of this disease from which we have but recently recovered. Whatever may be said about the vigorous manner in which Dr. Kucher handles those writers with whom he does not agree, there is an earnestness and directness in his arguments that compel attention, even if they do not always carry conviction. Our space does not permit us to analyze at length this portion of the book, suffice it to say that the author rejects emphatically the theory that puerperal fever is a specific affection, and accepts entirely the original idea of Semmelweis. The statistics showing the result of antiseptic midwifery in the Vienna hospital are most interesting, and their correctness will be attested by all who have personally inspected the workings of the system inaugurated by the great exponent of the septic character of the disease in question. Dr. Kucher has presented his sections on symptomatology and treatment in a clear and attractive form. If the pathology is not always as satisfactory as it might be, it is owing to the breadth of the subject and the constant necessity

under which the writer labors, of condensing into lines, matter that might have filled as many pages. As we remarked before, the essay on puerperal fever is really the most valuable feature of the book; some of the other chapters might have been omitted without weakening the general effect, but if the last two were expunged, the superficial reader would probably never recognize how much experience the author had had.

In concluding this hasty notice, we must not omit to mention that the style of the book is clear, comparatively few foreign idioms and gram matical errors occur in it, and the typography shows careful reading. In a second edition we trust that the author will not forget to add an index, the absence of which is a German peculiarity that is regarded with great disfavor by English readers.

H. C. COE.

ABSTRACT.

1. Paul F. Munde: **Two Cases of Large Extraperitoneal Pelvic Hematoma Cured by Vaginal Incision and Drainage** (*New Yorker Med. Presse*, December, 1885).—The writer makes the distinction into hematoma—hemorrhage into the pelvic cellular tissue, and into hematocele—hemorrhage into the deepest part of the pelvic cavity, into Douglas' fossa. In the first instance, the hemorrhage is extraperitoneal; in the second, it is within the abdominal cavity. In both instances the source of the blood is usually the same, that is to say, rupture of a large vessel, either artery or vein, rather than slow dribbling of blood from capillaries. Although, through plastic exudation and agglutination of the coils of intestines, the intraperitoneal pelvic sac will become shut off from the abdominal cavity, and, therefore, the intraperitoneal exudation—or hematocele—will in fact become *extraperitoneal*, the writer limits his paper to the latter variety, because the two cases which he records belong in this category.

The size of the tumor in case of pelvic hematoma varies greatly—from the size of a hazel or walnut to one or two pounds in weight. Tumors of the latter size in the cellular tissue are extremely rare, and are found either behind the uterus or between the layers of the broad ligaments, and may extend into the iliac fossæ, and dissect up the abdominal wall.

If there occurs rupture of one of the larger intraperitoneal vessels, the tumor may be a very large one, and (as in case of rupture of a tubal pregnancy) there may speedily follow collapse and death. In case of extraperitoneal hematomata, on the contrary, immediate fatal issue is very exceptional, since the blood more readily coagulates. Aside from the immediate danger which the formation of the tumor entails, and which in case of hematomata is very slight, there is the secondary danger of purulent degeneration and decomposition of the exuded blood, followed by septicemia, and this is far more to be feared than the primary collapse. In the majority of cases of hematomata this decomposition does not take place, for small tumors are ordinarily absorbed in a few weeks or months, and leave but little trace behind. In such cases the treatment will consist chiefly in cold applications, narcotics, and rest at the outset, later in rest alone.

In case of large tumors, as soon as the immediate symptoms and dangers—collapse, pain, renewed hemorrhage—have ceased, the question presents itself, how shall the secondary dangers be anticipated and prevented, either during the long months of waiting on spontaneous resorption, or in case of decomposition, absorption and blood poisoning. There are three methods of dealing with this question, and each method has had, and still has its retainers. 1. *Expectant* treatment, which leaves to nature the absorption of the effused blood, assisting her by recourse to methods which favor absorption, such as hot poultices and injections, iodine and mercury, galvanism, etc. 2. *Puncture*, whereby the aim is to drain off the blood through a small opening and small tube. 3. *Free incision, followed by drainage and irrigation*, whereby the coagulated blood is entirely removed through an incision *per vaginam*, and the cavity is kept clean and aseptic through constant or frequent drainage and irrigation. A. Martin's proposition to treat these cases by laparotomy, notwithstanding Baumgärtner's one successful case, has found no adherents, since Martin's three cases died. The writer believes that laparotomy should only be attempted in case of intraperitoneal hematocoele, for here the blood can be more readily reached through the abdomen than through the vagina.

The objections to the *expectant* method are: Spontaneous absorption requires long waiting, and, in case of large tumors, may never occur. The patient, hence, must look forward to protracted sickness with no certainty of cure; and a large proportion of cases succumb to exhaustion, embolism, perforating peritonitis.

The objections to *puncture* are: The end of this method is often not attained, the more or less coagulated blood not emptying itself through the small drain; notwithstanding careful antisepsis, it not infrequently happens that suppuration and sepsis set in, and so, eventually, a free incision must be made.

Apostoli's method—aspirator-needle connected with galvanic battery, puncture, and passage of the current, whereby not only is the coagulated blood maintained aseptic, but its absorption also favored—has not been sufficiently tested, and, in case of large tumors, is likely to fail.

The danger from incision and irrigation of the blood-cavity is, secondary hemorrhage and septicemia. Hemorrhage is scarcely to be expected if the incision is made some weeks after the formation of the tumor, and if it occur, we can temporarily use the tampon; sepsis may be prevented by careful antisepsis.

From a paper by Zweifel (see abstracts in this JOURNAL, February and June, 1885), the latest authority on this subject, it is noted that of 26 cases treated by incision there were 4 deaths (15%), and in two of these fatal cases forcible injections were directly responsible for the issue; of 66 cases of puncture, there were 10 deaths (15%); and of 129 cases treated expectantly, there were 54 deaths (41.8%). Barnes' statistics give 7 deaths (17%) out of 41 cases treated by expectant plan, and Bernutz and Goupil found a mortality of 47% in 62 cases treated by puncture, and of 89% where the treatment was expectant. Although these latter figures seem high, it is to be remembered that of the two procedures, puncture and incision, the last will ever be less dangerous than the first, and it is plain that the emptied and freely drained cavity will heal more quickly than we can expect spontaneous absorption, with or without puncture of a

large blood-tumor holding, often, one to two litres. Mundé's opinion, deduced from two cases of typical large hematoma (he has often seen smaller ones spontaneously disappear), agree with Zweifel's, and is that vaginal incision (free) of large pelvic hematomata is by no means as dangerous as has been thought, and that we should not wait before making the incision until this is forced upon us, but that as soon as incision is called for it should be made, and the patient thus be spared months of tedious convalescence. Of course, we must always wait until we are certain that the hemorrhage has ceased, and, therefore, secondary hemorrhage is not to be feared.

Attention to certain rules during incision is necessary: 1. The most prominent portion of the vaginal vault is to be chosen; if possible the centre of the post. cul-de-sac, in order to avoid vessels. 2. The incision should be sagittal, in the median line. 3. The blood is to be evacuated with finger, dull curette, or (as M. did) with Sims' depressor used as a curette. 4. The cavity is to be irrigated antiseptically—sublimate (1-5,000) or boracic acid (1-1,000). 5. For twenty-four to forty-eight hours the cavity is to be packed with iodoform gauze to guard against secondary hemorrhage. 6. After removal of gauze, the cavity should be irrigated every two to three hours with an antiseptic solution (sublimate, 1-10,000; carbolic, 1%; thymol, 1-1,000, etc.), and in case of necessity, such as foul discharge or symptoms of sepsis, permanent irrigation through drain tube. The leaving of a drain tube from the beginning seems unnecessary, because careful and frequent irrigation, always by the physician, suffices to keep the incision open, and to prevent the retention of sepsis-producing matter.

Two cases were treated as above. The hematoma cavity healed quickly, and without noteworthy disturbance, and the patients were discharged cured. In the first case 26 oz. of blood were evacuated, in the second 18 oz.

In both of these cases, the hematoma depended on early miscarriage. (In this paper M. limits himself to consideration of operative treatment of such cases, and does not touch upon either etiology or diagnosis.)

E. H. G.

ITEMS.

1. The first annual meeting of the GERMAN GYNECOLOGICAL SOCIETY will take place in Munich, June 17th to 19th of the present year. Applications for membership should be made to Professors Winckel, in Munich, and Olshausen, in Halle.

2. DR. PAUL F. MUNDÉ has been elected one of the Vice-Presidents of the *British Gynecological Society*.

3. A reception to the Faculty and students of the NEW YORK POLYCLINIC and to many eminent physicians of New York and vicinity, was given by DR. PAUL F. MUNDÉ, at his residence, on February 11th. About two hundred gentlemen were present, among them many of the most distinguished practitioners of New York. Dr. Wm. Goodell came from Philadelphia for the occasion.

The object of the reception was to bring into personal and social contact the members of the Faculty and their staffs (some 80 in number), and the physicians attending the courses at the Polyclinic, and the most prominent members of the profession in New York City.

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ORIGINAL COMMUNICATIONS.

THE VALUE OF THE ANTISEPTIC SYSTEM IN PRIVATE
OBSTETRIC PRACTICE; CONCLUSIONS BASED ON A STUDY
OF THE PUERPERAL TEMPERATURE.

BY

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OBSTETRICS is the mother of antiseptic knowledge. Instead, however, of fulfilling her maternal duties and nurturing the offspring to full life and vigor, she neglected it, and but for surgery it might have been forgotten.

It is difficult to say why such was the case. The result of the adoption of antiseptic precautions in the hospitals of Germany was encouraging from the beginning, and, too, at a time when improvement was sadly needed. The mortality from child-bed fever at that period was something appalling.

Antiseptic delivery is not yet practised so universally as it should be in hospitals, and still less is it employed in private practice. During recent years, obstetricians are recognizing its merits and giving the subject more attention. Some idea may be formed of the neglect it had suffered at their hands, by making the following comparison. In volume I. of the Index Catalogue of the Library of the Surgeon-General's Office, a space

of about one-fifth of a column is occupied by references to articles on antiseptic midwifery, while antiseptic surgery takes up nearly nine columns of the same work.

I have said that the use of antiseptics in the delivery of women is even less employed in private practice than in that of hospitals, and the object of this paper is to consider the subject in the former aspect.

At a meeting of the Washington Obstetrical Society, held in April of last year, the subject for discussion was: "The Management of the Puerperium." I was at that time in full accord with the sentiments expressed by the majority of the members present in favor of antiseptic vaginal injections employed during the week or two succeeding parturition. So firm, indeed, was my conviction of their good effect, that I considered it a neglect of duty to fail to direct them in every case. Minor accidents in my own practice, and the reports of more serious troubles in that of others, had not deterred me from making use of them until, very soon after the meeting in question, I barely escaped having a death certificate to sign which would have read thus: First or primary cause, hot vaginal injection of a solution of carbolic acid; second or immediate cause, general peritonitis.

My patient had been confined of her third child, a girl, and had reached her eighth day safely and comfortably. Vaginal injections had been given by an experienced nurse, morning and evening, from the beginning of the lying-in; but, on the evening of the eighth day, its administration was followed by uterine pain, chill, fever, tympanites, and abdominal tenderness.

For several hours succeeding the injection, a watery fluid, tinged with blood, escaped freely from the patient's vagina. The next morning her temperature was 102° , the abdomen was still tender and tympanitic; bowels constipated.

By use of opium and hot applications, she recovered after twelve days of fever.

Dr. Chamberlain, of New York, has twice observed peritonitis quickly follow the use of vaginal injections of hot water. Although he says there was no evidence whatever, in either of these cases, that the fluid had been injected into the uterus, he nevertheless takes the precaution to avoid such an accident by having the injection administered while the patient is in a sitting posture; also to use a tube without a terminal opening. Dr. Frank P. Foster believes the injections dangerous, whether given hot or cold, and in any position; moreover, he has no

confidence in the theory that safety is secured by dispensing with the terminal opening in the tube. Mundé is of the opinion that the sitting posture *favours* the introduction of fluids into the uterine cavity, in parous women with probably lacerated and gaping cervixes. In one of Dr. Chamberlain's cases, it was impossible to have injected the uterus because of stenosis of the cervical canal. He is of the opinion that the harm resulted from direct action of the hot water on the inflamed tissues. Dr. Foster attributes the pain following the injection to a spasmodic contraction of the muscular wall of the vagina around the nozzle of the syringe, in consequence of which the upper part of the canal is distended by fluid. To remedy this, Dr. F. designed a special nozzle to be attached to the syringe.

Dr. Mundé holds that this view is theoretical and not supported by facts, except when there are pelvic adhesions, as in chronic peritonitis and cellulitis. These gentlemen agree upon one point: that vaginal injections may produce pain and sometimes dangerous symptoms. Each holds entirely different views as to the manner in which the injurious effect is produced, and each suggests a remedy, while he places no confidence whatever in the remedies proposed by the other two. This discussion¹ is introduced here merely to call to mind some of the inconveniences which may attend the employment of these injections, and you can readily appreciate why, after the experience I have related with my own case, I determined to adopt some method that would obviate the necessity for using vaginal injections.

The antiseptic plan so ably advocated by Paul Bar in France, and copied by Garrigues in this country, promised what I wished. *The antiseptics are used externally.*

It is evident that to arrive at any conclusion regarding the value of a certain line of treatment, some other method of investigation than that of mortality must be adopted, unless the opportunity exists to compare a large number of cases treated by different methods.

Playfair² has said: "The key to the management of women after labor, and to the proper understanding of the many important diseases which may then occur, is to be found in a study

¹ "Treatment of Diseases of Women." C. H. Goodwin. Pp. 129-133. New York, 1884.

² "Science and Practice of Midwifery." 3d Am. Ed., 1880, p. 540.

of the phenomena following delivery, and of the changes going on in the mother's system during the puerperal period."

A careful study and record of these same phenomena, more particularly with reference to the range of temperature during the lying-in period, offered the only means of investigation I could command. The result furnishes the key to the management of women during labor as well as afterwards.

The number of cases upon which I have based the conclusions offered, although numerically small, is amply sufficient to convey to my mind the value of antiseptic delivery. Moreover, these conclusions confirm the results of others, who have employed and who advocate this system of treatment. If this were not the case, I should hesitate to present facts based upon such limited experience.

Before taking up the study of these cases, let us ascertain what is considered the physiological temperature of the first week of the puerperium.

Soon after childbirth the temperature begins to rise, and continues to increase until the maximum is reached about twelve hours afterwards. It declines during the second twelve hours, but does not quite reach the normal point for five or six days.

According to Schroeder,¹ "the highest temperature reached is, on an average, 38° C. (100.4° F.); it may be somewhat more, even over 39° C. (102.2° F.), without any actual disease being present."

Lusk,² following the teachings of Schroeder, allows a wide range within physiological limits of the temperature wave soon after delivery. If delivery is effected in the morning, he adds the usual rise of one or one and a half degrees following the act of parturition to the normal rise which takes place in the human body about 5 P.M., and, in this way, he witnesses an elevation to 102°, or even more, without uneasiness.

I cannot but think these conclusions were founded upon hospital experience. In private practice, at least, I have not been able to verify them. In cases observed by myself, the maximum point was usually between 99 and 100°, rarely beyond the latter figure unless instruments were employed.³

¹ "Manual of Midwifery." New York, Appleton & Co., 1873, p. 99.

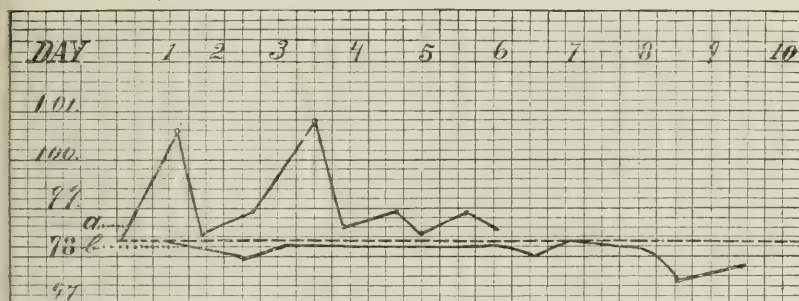
² "Diseases of Women." Goodwin, New York, 1884, pp. 116 and 117.

³ Squire ("Puerperal Temperatures," Tr. London Obstet. Soc., vol. ix., p. 120) does not recognize the occurrence of this primary rise of tem-

A few days after this primary rise of temperature, usually about the third or fourth day of the puerperium, it is customary for a second elevation to take place, preceded, perhaps, by chilly sensations, and accompanied with pain in the head, aching over the body, thirst, distention of the breasts, and secretion of milk.

The first rise of temperature is attributed to the "production of heat through rapid metamorphosis of the uterus" (Schroeder); the second, to the awakening of the functional activity of the mammary gland, and is consequently termed "milk-fever."

Accepting the temperature wave *a* shown in the accompanying chart as that which represents the physiological range during the first week of the lying-in, we will compare with it *b*, which represents the average daily temperatures of twenty-six cases treated antiseptically during parturition.



The cases from which this average is obtained are not selected, but, with the exception of four, constitute the entire number treated in this manner. Three of the four cases omitted were delivered with forceps, and, in the fourth, pneumonia developed on the third day after labor.

The highest point reached by any of the forceps cases was 100.4° F. This occurred at 4.30 P.M. of the second day.

The average temperature of the cases delivered without antiseptic precautions during the same time is higher, but selected perature. He says a slight elevation occurs as a result of the efforts of parturition, but it commences to decline after childbirth, and reaches normal or subnormal by the end of twenty-four hours.

Barnes ("System of Obstetrics," Am. Ed., 1835) likewise states that a slight fall has been noticed, twelve or twenty-four hours after labor. Observations, he says, made in hospitals which show a rise of over .5° F. cannot be accepted as normal.

cases of this class compare favorably with those treated antiseptically.

A rapid labor, or one in which the child was expelled shortly before my arrival, usually pursued a favorable convalescence without rise of temperature. As no vaginal examinations were necessary in such cases, they were as antiseptic as nature could make them.

The average temperature for the first day (98.3°) was taken, in every case, shortly after labor; consequently, it does not show the primary elevation which is assumed to occur within the first twelve hours. The termination of an easy labor, with a short second stage, was often marked by subnormal temperature, especially when delivery occurred between 1 and 6 A.M.

The particular feature of the record of these cases, and that to which I wish to call attention, is the absence of the secondary rise of the temperature wave.

If this elevation, which usually occurs on the third, fourth, or fifth day of the puerperium, is due to the secretion of milk, why should it not manifest itself in these twenty-six cases? The function of lactation was developed at the usual time and in the usual manner in all of them. Why should an antiseptic employed in the vagina during labor prevent a rise of temperature subsequently, if that rise is symptomatic of the secretion of milk?

Although Cazeaux says¹: "It is reasonable to believe that the swelling and painfulness (of the breasts) is the cause of the general reaction," he points out the fact that "certain females, even of those who do not nurse at all, have no milk fever whatever, and this notwithstanding that the breasts are considerably swollen and the secretion of milk is abundant." "This," he goes on to say, "is a much more common occurrence than is generally supposed, and I have frequently had occasion to point it out to students."

In another part of his work,² he again throws doubt on the connection between these two phenomena as cause and effect. He states: "Where the child's death takes place at an advanced stage of gestation, and the dead body is not expelled for several days afterwards, it is by no means uncommon to find all the

¹ "Theory and Practice of Obstetrics," 7th Edit., P. Blackiston Son & Co., Philadelphia, 1884, p. 436.

² P. 437.

phenomena of milk-fever manifesting themselves. In ordinary cases, by the time the fever is over, the breasts have acquired their highest degree of distention, and the secretion of milk is very abundant."

Now if, as Cazeaux says, we are to regard the swelling and painfulness of the mammary glands as the cause of the general reaction which usually occurs about the same time, what has the death of the child and its expulsion several days afterwards to do with the earlier development of the fever? And why, if that is the cause, is the milk fever over at the time when the breasts have acquired their highest degree of distention? In otherwords, the result has passed off before the cause has come most actively into effect.

Before setting aside this commonly accepted theory of the cause of the so-called "milk fever," let us inquire whether any better explanation is offered to account for the febrile excitement usual at such times.

I believe there is, and take the ground that it is due, first, to mild septic infection, accompanied or not by slight metritic or parametritic inflammation. This is the principal and in most cases the only factor. Others mentioned in the order of their importance are: second, traumatic fever; third, mastitis, and fourth, lactation.

The last factor may be disposed of by the admission that it is possible for febrile reaction to arise from the development of the function of lactation *per se*. It is to be sought for only in women with extremely sensitive nervous systems. Slight causes, such as mental excitement, constipation, indigestion, etc., may also occasion temporary elevations of temperature.

By traumatic fever is meant such reaction as might naturally be expected to follow lacerations and injuries of the genital canal received at childbirth. It has been demonstrated that the average puerperal temperature is higher in women who suffer from lacerations at childbirth than in those who escape such accidents, although the day upon which the highest temperature usually occurs is not changed thereby.¹

The cause of the febrile movement is undoubtedly located in the mammary gland in some cases. In these instances, it can more properly be attributed to a slight degree of mastitis which

¹ See paper read by Mr. E. S. Tait, "Observations on Puerperal Temperatures," before London Obstetrical Society, January, 1884.

ends without suppuration. The gland is congested, swelled, painful, and tender; and who can draw the line and say just where this congestion ends and the inflammation begins? Take this description, by Cazeaux, of the condition of the organ when the function of lactation is beginning, and we cannot fail to recognize the existence of an inflammatory process.

He says: "During the febrile movement, which is generally slight, the enlargement of the mamminæ continually increases, extends as far as the arm-pits, and involves the surrounding cellular tissue, whence the patient can no longer bring the arms down alongside of her body, and therefore has to hold them off. The skin is sometimes so stretched as to become painful and incommode the respiratory movements of the chest." . . .

The following quotation from Schroeder² leaves no doubt of his views on this question:

"As there are unmistakable signs of a local inflammation, and as doubtless the fever is due to that inflammation, the name of mastitis may be reserved, as it is usually done, for the suppurative inflammation, and the symptoms in connection with the commencement of the secretion of milk may be designated as 'milk fever.' Although the inflammatory state just described disappears in a great majority of instances, yet there are exceptional instances where, under unfavorable conditions, suppuration sets in."

Let us consider some of the objections that may be raised against the acceptance of these views.

It may be questioned: Why does the febrile rise occur coincidently with lactation, and why does it decline when the breasts are relieved? Why is it usually less pronounced in primiparæ? Why more so in those who do not nurse or who postpone the act; and again more so in those who have been kept on low diet or who have been exhausted by hemorrhage or other means?

In reply it may be said that the coincident occurrence of the function of lactation and the rise of temperature is more apparent than real. The two frequently occur on different days, while an interval of twelve hours between them is more often the rule than the exception. Even did they appear hand-in-hand, that would not prove conclusively that they were associ-

¹ Ibid., p. 436.

² Ibid., p. 375.

ated as cause and effect. During the first few days succeeding childbirth, the mother's system is in a condition of rest, as if placed in physiological splints. After a variable period, generally two or three days, reaction occurs, and she appears to awaken from this state of lethargy. A purgative overcomes the paralytic condition of the lower bowel; absorption by the lymphatics of the genital canal is most active, and milk is secreted.

The most dangerous period of the lying-in is reached. Fever under such circumstances can occur without being necessarily attributed to the process of lactation, and relief of the distention of the mammary gland can relieve the fever only in so far as inflammatory action of the gland enters as a factor in the case.

The same explanation will apply to the class of women who do not nurse or who begin the maternal duty after some delay. It is also well known that the act of nursing assists in securing a well-contracted uterus, and Ahlfeld has demonstrated that the absorptive power from this cavity is much less when such a condition exists.

The same favorable state of the organ obtains likewise in primiparæ more than in multiparæ, consequently the former suffer less from this mild septic fever. On the other hand, it is to be remembered that primiparæ are more liable to suffer from traumatic fever. Exhaustion, whether the result of deficient food, prolonged labor, or hemorrhage, favors septic infection and intensifies its effects. Germs, which under an opposite condition of the system would be thrown off or rendered harmless, now gain access to the human organism and manifest their baneful influence.

Fortunately this evil influence in the great majority of instances is limited to a transient fever. *The difference, however, between this and the serious septic fever is one of degree only, and not of kind.* "If," says Barnes, "'milk fever' persists beyond twenty-four hours, it becomes puerperal fever."

The clinical picture presented is not inconsistent with such a theory. I have already endeavored to explain why this septic infection may be manifested at about the same time the secretion of milk appears. They both occur at the period of reaction. It is well known "that if a woman is infected during the last stage of her delivery, the first part of the puerperal state passes

quite normally. . . . The first signs of the outbreak of the disease are observed in from thirty to forty hours after infection; usually on the second or third day after delivery." (Schroeder.)

The manifestation of autogenetic infection at this same period is thus explained by Barnes.¹ "About the third day is the epoch for the establishment of the absorptive process. The two days following labor are a period of rest. During this time the disintegration of the uterus and other superfluous structures is only beginning. The supply of waste stuff for absorption is scanty. This can hardly be a source of fever. And if there be any blood or other matter in the uterus, it will hardly decompose under two days or more, so as to yield septic stuff for absorption. But on the third day waste stuff is pouring into the blood; decomposition may have begun in the cavity of the uterus, and active absorption finds material to work upon. Thus it is that febrility occurs on the third day." The ephemeral nature of the fever is not proof against its septic origin. Experiments on animals have demonstrated that the disturbances soon pass off when the absorption of septic matter is not kept up. The poison is rendered innocuous or eliminated from the organism by the excretions which are so active at this period. A profuse sweat frequently terminates the febrile excitement.

To repeat: the fever often met with about the third day of the puerperal state, commonly called "milk fever," is in reality due, in the vast majority of instances, to septic infection.

It may, however, be partly, in some instances wholly, a symptomatic fever, expressive of inflammatory action, seated either in the genital canal or mammary gland, or both.

Consequently any rise of temperature above the normal point occurring after the first day of the puerperal state must be considered pathological.

During the discussion of Dr. Garrigues' paper on Puerperal Diphtheria, read before the recent meeting of the American Gynecological Society, Dr. Lusk remarked that, since antiseptic delivery had been adopted, the hospital patient no longer had milk fever, and so great and favorable was the change effected by the practice, he now considered women were safer delivered in hospital than at home surrounded by all the comforts of life.

This confidence in the value of antiseptics in obstetric prae-

¹ Ibid., p. 718.

tice is shared by all who have had experience in its employment. The introduction of the treatment has so reduced the maternal mortality that, for my part, I believe it is no exaggeration to say that, with the exception of small-pox, there is no disease so preventable as puerperal septicemia.

An interesting debate on this subject is printed among the Transactions of the Obstetrical Society of London.¹ Dr. Matthews Duncan is reported as having said that the subject of antiseptics in midwifery was the most important of all in the whole obstetric department, but it was receiving very little attention. "The subject was greater than the prevention of epidemics, which came occasionally, while puerperal deaths were constantly occurring in the most valuable members of the community."

Dr. John Williams said that, although we could not overcome by antiseptics all the evils of pregnancy and labor, we may hope to abolish the deaths from puerperal fever. To do this would be to reduce the mortality in childbed to $\frac{1}{4}$ per cent, or 2.2 per thousand.

Dr. Playfair stated that in his own practice antiseptics were as rigidly enforced as it was possible, and he supplied his nurses with cards having printed upon them rules for carrying out the treatment. He was confident that not one man in one hundred used antiseptics in any thorough way.

In conclusion, I wish to state briefly the method adopted by myself for the purpose of securing antiseptic delivery. Simplicity is the first consideration. A stiff nail-brush and a box of powders, each powder containing half a gram of bichloride of mercury, is all the preparation necessary. After entering the bedroom of a woman about to be delivered, no vaginal examination is made until the hands have been cleaned in the following manner:

A solution of bichloride of mercury 1 to 1,000 is made by dissolving one of the powders in a pint of warm water, and the hands are thoroughly scrubbed in it with the nail-brush. All dirt is then removed from beneath the finger nails, and a second scrubbing given the fingers of the examining hand before they are ready to be introduced into the vagina. No lubricant is used. Examinations are not repeated unnecessarily, and every time one is made, the hand is previously soaked in the antiseptic solution

¹ See AM. JOURN. OBSTET., vol. xviii., No. ix., p. 989.

which should be kept in a basin near the bedside. Occasionally the use of the nail-brush should be repeated. The accumulation of bloody mucus around the vulvar orifice must be prevented by bathing the part with the antiseptic solution.

After the birth of the infant, two important rules are kept in mind: to secure firm contraction of the uterus, and not to introduce the finger into the vagina.

A teaspoonful of fluid extract of ergot is administered, the fundus of the uterus followed down with the hand, and the placenta expelled by compression.

It often happens, in consequence of the exertion caused the woman by removal of the soiled linen, that a uterus which had been firmly contracted becomes relaxed, and the fundus reaches as high as the umbilicus. To avoid this, the woman should be moved about as little as possible while being changed, and pressure must be kept up on the uterus until she is ready to be bandaged.

If the uterine tumor becomes enlarged in spite of these precautions, or if there is any tendency to excessive flow, I give a vaginal injection of a solution of the bichloride (1 to 4,000) as hot as it can be borne, and during its administration squeeze the uterus in order to secure firm contraction of the organ, and to press out any blood-clots from within the cavity.

When the surgeon has performed an operation according to antiseptic rules, he does not remove and reapply his dressings two or three times a day for the purpose of washing the surface of the wound with an antiseptic lotion. On the contrary, the dressings are put on and left until the wound is healed. And so, after this treatment has been carried out, the use of vaginal injections during the puerperal condition becomes unnecessary.

The truth is; unless especially called for, they may do harm in other ways than that already mentioned. Not only may germs be conveyed into the vagina by the nozzle of the syringe, or by the unintentional admission of air; but the tube, introduced ever so carefully, may destroy recent granulations which are Nature's barriers against the admission of septic matters into the system.

The only after-treatment advisable is cleanliness. The vulva should be washed several times a day with a warm antiseptic fluid, using for the purpose either a syringe or a soft

linen cloth. Sponges ought to be banished from the lying-in chamber.

An unpleasant odor to the lochia demands the employment of antiseptic vaginal injections. The development of fever after the first day is to be considered pathological; the cause must be looked for, and appropriate treatment begun without delay.

It is not within the limits of this paper to consider the more complicated antiseptic precautions which may be demanded in certain cases. When operative interference becomes necessary, or when puerperal septicemia is prevalent, the same care is called for that should always exist during the delivery of women surrounded by hospital influences.

SYNCOPE OR ANEMIA OF THE BRAIN A CAUSE OF AS- PHYXIA NEONATORUM, AND ITS TREATMENT.

BY

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THERE has been a great tendency to overlook the cause in the treatment of asphyxia in new-born children, which is due probably to the presumption that it is a delay on the part of the lungs in performing the first inspiratory act. The problem then was how to start it.¹ This was supposed to be solved in the employment of artificial respiration and excitation by reflex action, etc., as they seemed to keep the heart acting until things could right themselves.

The result was a practice, more or less routine, energetically and often imperfectly applied.

It is true the pathology has been studied, but so far it has done but little in directing a remedy to the cause. It is therefore that the influence of two cases I have recently had may be turned in this direction that I desire to report them.

CASE I.—The mother of the first case was a primipara. The

¹ Barnes: "System Obst."

liquor amnii had escaped eighteen hours before I saw her. The contractions were frequent, forcible, and of long duration. The os was rigid and undilated. One-fourth of a grain of morphia sulphate was administered hypodermically, from the effects of which dilatation went on readily. Labor then continued, with the fetus in the first cranial position, without any *very* great difficulty.

The fetal heart could not be heard before delivery, which fact, taken in connection with the long contractions, caused a prediction of "suspended animation."

The pulse of the cord was weak, the muscles were flaccid, and the surface was pale. Friction, hot and cold water, flagellation, inflation, artificial respiration, and other means of resuscitation, failed to revive the child, after a trial of forty minutes or more. The surface grew paler, and the umbilical pulse grew weaker and weaker, and finally stopped. The cord was then tied, and the heart auscultated; an occasional beat (one in about six or eight seconds) could be heard. Attempts to revive the child were resumed without success.

It occurred to me that there might be an anemic condition of the brain, and having its relief in view, I put the baby in a perpendicular position, with its head downward. In a few moments it gasped; this added encouragement to my efforts, and I again began artificial respiration. Failing in this, I returned it to the inverted position, in which it made other attempts at respiration. I then brought it to the horizontal position to see if it would continue its efforts to breathe, but it did not. Other methods were again employed, but in vain. Then for a third time it was placed heels uppermost, and a third time it began to breathe; the heart's action increased in frequency, but so soon as she was removed from this position, the respiration ceased, and the interval between the heart-beats grew longer.

By this, I was convinced that the influence of gravity upon the blood was the only favorable thing that I could bring to bear upon the case, so I accordingly wrapped it in a woollen cloth, and directed the nurse to hold its head downwards, alternately turning the face and the occiput to the fire. In about an hour, the circulation and respiration were acting normally, and the baby was crying loudly.

CASE II.—The, second case was also the child of a primipara. There were no marked deviations from natural labor other than a very great overlapping of the cranial bones. The head was large, and the occiput became very much pointed in moulding. The membranous portion of the posterior fontanelle could not be detected during labor, but the day after measured an inch and one-fourth in its greatest diameter.

The child was in the second stage, or pale asphyxia, as the surface was pale, the skin was cold, the sphincters and other muscles were relaxed, and as no reflex action did occur, in this in-

stance as in the other, the most and the best of the many methods of revivification were plenarily applied, but without the desired results, and doubtless much valuable time was lost and detriment effected in their employment, as it became necessary to resort to gravitation of blood to the brain to engender the desired end. It came, however, but slowly, for three-quarters of an hour had passed before he was *breathing well*, making in all an hour and a half from the time of his birth.

It was afterwards handed to the nurse, who, in dressing him, placed him in a sitting posture; the result was an expungence of all that I had done, or the secondary asphyxia of Marshall Hall. The case then seemed hopeless, but notwithstanding I fixed him head downwards, with the happy result of again restoring him to life.

These cases plainly demonstrate, I think, the want of blood in the brain. In each time, it was allowed to flow away from that organ; in the first case, all attempts at respiration ceased; but, to the contrary, efforts at respiration were induced each time the blood was permitted to gravitate to it. And the second case was twice revived in this way.

The nervous centres from a deficiency of blood were unable to recognize and respond to the stimulus that ordinarily would have excited respiration. The cause of which, in the first case, was likely due to the feeble action which in turn was produced by the frequent long contractions of the uterus.

In the second case, it was due to compression of the brain in labor, as the heart's action was good (but afterwards grew feeble), and the pulse full; and as "paralytic" (or "pale") asphyxia is produced by compression and other injuries to the brain and medulla oblongata. This is especially apt to occur in labor with disproportion, under delivery by forceps or by turning.

*Syncope has been invoked to explain some of these cases.*¹

The secondary asphyxiation must find its explanation in the inability of the weakened heart to pump the blood to the brain, with the child in the sitting position.

Believing, then, anemia of the brain, or a condition of syncope, to be a pathological factor in some cases of asphyxia neonatorum, I would advise, for its relief, the ready method that I employed in the foregoing cases, viz., the gravitation of blood to the brain.

Doubtless, this is the explanation for the return to life of those babies cast aside as dead; for it is more than possible that

¹ Barnes': "System Obst.," p. 631.

they may have unconsciously been placed with the head lower than the body.

The advantages that are claimed for this treatment are:

1. It enables you to employ any other method in connection with it.

2. It is totally void of violence—a matter well worthy of consideration. The last edition of Barnes' "System of Obst." says: "We often do harm, and doubtless many would live if left to themselves. Violent or prolonged artificial respiration works much detriment, and may even fan out the last spark of life."

3. It induces the escape of such fluids as may be in the air passages—a matter of prime importance, especially in cases of intrauterine respiration.

4. Where there is a circulation of blood through the foramen ovale, it substitutes the purer blood of the vena cava ascendens for the venous blood of the vena cava descendens.

5. It gravitates the blood to the lungs, which, there distending the blood-vessels, causes additional stimulus to respiration.

THE OVARIAN COMPLICATION OF ENDOMETRITIS.

[STUDIES IN ENDOMETRITIS.]

BY

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OVARIAN disease is one of the most formidable complications of endometrial subinvolution. It may develop in two different ways—as a coincidence with fundal endometritis; or as a result of the subinvolution, or of the mechanical engorgement of the ovarian plexus. In the first case the disease begins on the cortex, in the follicular zone—which is properly an extension of the fundal endometrium—a portion of the "germinative membrane."

In the second case, the disease begins in the medullary portion of the ovary, or at the hilus where the blood-vessels enter from the adjacent plexus. Slavjansky¹ says, "We are compelled, for

¹ Arch. für Gyn., Bd. iii., Heft 2, 1872.

the ovary as for other organs, to separate its inflammations into two principal forms: the *parenchymatous* (affecting the entire epithelial gland tissue), and the *interstitial*, beginning in the stroma."¹

The *parenchymatous inflammation* cannot always be exactly measured in its form and intensity by the naked eye. The ovary is not markedly enlarged, its tissue is almost of a normal consistency, the blood-vessels are distended to various degrees. At times the hyperemia is extremely marked, so that the *finest vessels surrounding the follicle appear like a delicate network*. The hyperemia extends to the membrana propria of the follicle, the liquor folliculi becomes turbid, and may even appear purulent. Sometimes a deposit of fibrin is found on the surface of the ovary. It is the youngest follicles which are most likely to be attacked; their epithelial cells become altered; sometimes binucleated; sometimes degenerated to a finely granular mass." "When the process is intense, the contents of the ovum become so turbid that the vesicula germinativa is no longer visible, but the zona pellucida is preserved."

As the process continues, a continually larger number of follicles become affected. Ultimately, the interstitial tissue surrounding the follicles is involved: thickened from hyperplasia of its elements, colored an intense dark red from distention of its blood-vessels, and even the seat of numerous sanguinolent extravasations. Apoplexy of the follicle is rare, but may be simulated by post-mortem rupture of the distended vessels of the granulation layer, when the follicle is opened.

The *interstitial inflammation* begins in the stroma ovarii, and for at least some time the parenchyma remains unaltered. The ovary is always enlarged, the tissue loose and edematous, the surface of section shows numerous distended vessels and extravasations: the entire tissue is soaked with a turbid serous fluid. The stroma is infiltrated with a number of cell elements of the size and shape of white blood-corpuscles. The number of the fixed spindle connective-tissue cells is increased, but they are smaller than normal, and their distribution is irregular. Red blood-corpuscles are also freely extravasated, and foci of pus may form. Ultimately the parenchyma becomes involved. Slavjansky finds that the parenchymatous form of oöphoritis

¹ The author apparently counts together the stroma of the cortex and of the medulla.

is extremely frequent after infectious diseases—an anatomical observation agreeing with the clinical experience of Tait.¹

We have recently made detailed microscopic examination of the ovaries removed from three different patients by Battey's operation. The results of the examination differed in each case.

CASE I.—Woman æt. 35, suffering from dysmenorrhea since age of 22, and for the last eight or ten years from almost constant pelvic pains. Eighteen months before the operation, both ovaries were found prolapsed and much enlarged, and exquisitely sensitive to pressure; the uterus was in long-standing retroflexion, the endometrium exquisitely sensitive and hyperemic, while there was very little catarrhal discharge. After removal, the ovaries were hardened by the usual methods.

Left Ovary.—Its length was forty millimetres, its breadth thirty millimetres. The surface was slightly lobulated near the base, elsewhere merely marked with sinuous lines. A large cyst, filled with blood, extended from about two millimetres of the free border of the ovary to within twenty millimetres of its attached border. One or two small cysts, the size of peas, filled with blood serum, projected from the surface of ovary.

Right Ovary closely resembled the left in size, general appearance, and in the presence of a hemorrhagic cyst extending from the free border to within eight millimetres of the hilus.

In both these cysts, the walls were thickest towards the base of the ovary, and grew gradually thinner towards its free surface. As this was also the most dependent, it might seem as if blood, effused at the base from the large vessels entering the hilus, had filtered towards the lowest point; or, the condition might be interpreted as indicating that the effusion first occurred on the cortex, and, being frequently repeated, accumulated at this point in greatest abundance, and then gradually insinuated itself along the loose connective tissue at the centre of the medulla towards the hilus.

The inner wall of the cyst of the left ovary was composed of the ordinary stroma of the organ. The cyst of the right ovary was lined by a distinct membrane, composed of several layers of loose connective tissue. From this it follows that both cysts resulted from an apoplexy into the stroma of the ovary, or into

¹ "Diseases of the Ovaries," p. 102. "I have no doubt that there is a special form of oöphoritis associated with certain exanthemata, more particularly scarlet fever and small-pox."

See also report on diseased ovaries by Noeggerath, AM. JOURN. OBSTET., 1874.

cavities already formed in that, unprovided with proper membranes or epithelial lining.

The walls of both cysts were richly supplied with blood-vessels. Apart from this, however, there was no marked hyper-



FIG. 1.—Section through medullary portion of ovary (b), and deeper part of cortex (a). Absence of follicles in this part where they are usually abundant. Oc. 1, object. 2.

emia of the cortex in either ovary. The blood-vessels of the medulla were numerous, and normally so, and were nowhere engorged with blood (see Fig. 1). Besides the hemorrhagic

cysts, the special alterations discovered in these ovaries consisted in (a) peculiar infiltrations of the walls of the blood-vessels; (b) presence in great abundance of the bodies which have been described as degenerate Graafian follicles; (c) atrophy of young follicles.

(a) Most frequently the vessels were altered by thickening of their middle coat. The muscular substance of this coat lost the greater part of its nuclei, and was changed into a smooth homogeneous substance, staining deeply and quite peculiarly with

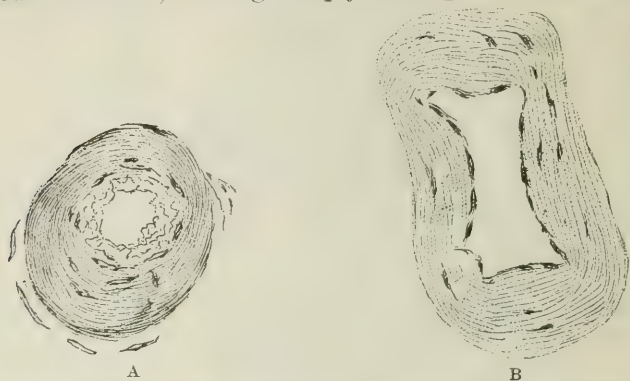


FIG. 2.—Blood-vessels with hyaline thickening of middle coat. Oc. 2, object. 7.

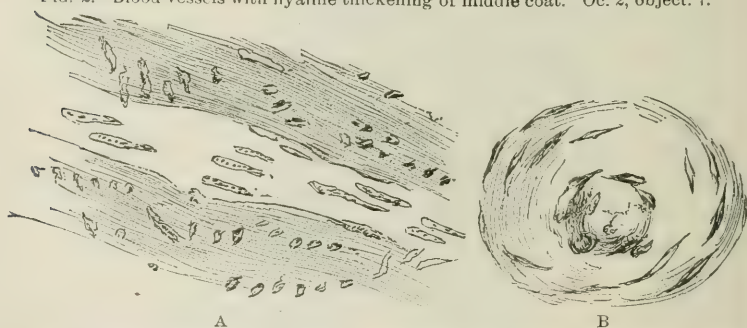


FIG. 3.—Hyaline degeneration of blood-vessels from ovary, Case II. A, vein; B, artery. Oc. 2, object. 7.

eosin. This peculiar color contrasted distinctly with the red of the rest of the stained section, so as to be noticeable at a low power of the microscope. The substance also stained with fuchsin—indication that it did not consist of connective tissue, and thus that the alteration was not a sclerosis. There was no rosy reaction with methyl violet, such as characterizes the amyloid degeneration (Delafield), nor was any mahogany hue obtainable with iodine. The ensemble of characteristics marked the substance as a product of the hyaline degeneration.

Figs. 2, A and B, and 3, A and B, from case II., show this hyaline alteration of the blood-vessels. It affects those of medium size, not the capillaries. The degeneration is most frequently seen in the vessels lying in the deeper portions of the cortex, but is found occasionally also in the vessels of the hilus. In other blood-vessels the thickening seemed to be in the

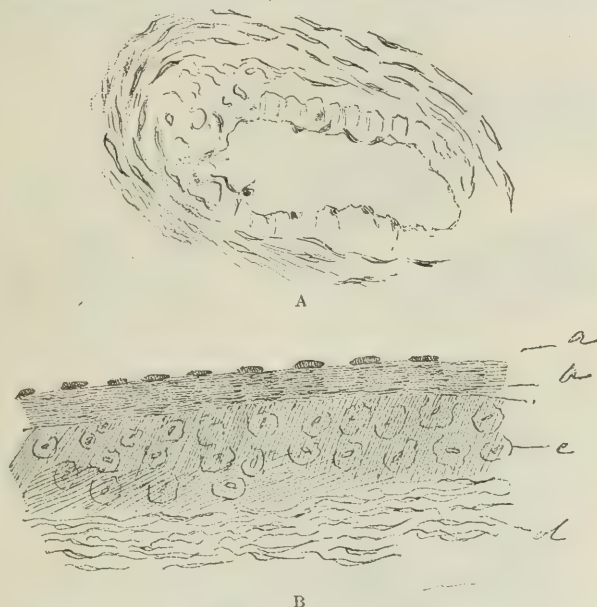


FIG. 4.—Blood-vessels with thickening of the intima. *a*, epithelium; *b*, subepithelial homogeneous substance; *c*, media; *d*, adventitia. Oc. 2, object. 7.

intima, consisting of a homogeneous band lying under the endothelium, and between that and the muscular coat (Fig. 4, A and B).

Fig. 5 shows a very large vessel from the hilus which appa-

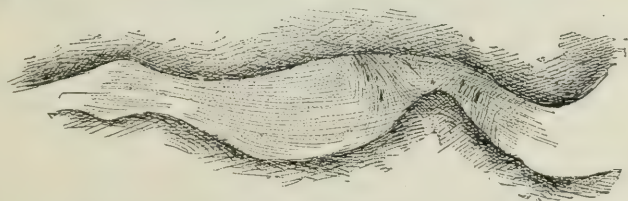


FIG. 5.—Large vessel constricted by band. Oc. 1, object. 4.

rently is being constricted by a band of connective tissue growing across. This constriction resembles that which has been

described by Noeggerath.¹ This author also mentions the thickening of the intima and of the media which we have described.

These alterations were far from being universal. Healthy vessels existed in abundance, together with those which were diseased (Fig. 6).

(b) The second peculiarity of these ovaries consisted in the atrophy of the Graafian vesicles. Of well-developed vesicles of microscopic size, such as are shown at Fig. 7 from case II., there

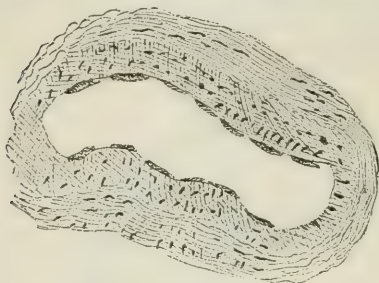


FIG. 6.

FIG. 6.—Healthy vessel. Oc. 2, object. 4.



FIG. 7.

FIG. 7.—Normal Graafian vesicle from ovary of Case II. Oc. 2, object. 7.

were none. In one section from the follicular zone, four vesicles appeared in one microscopic field (Fig. 8). But these



FIG. 8.—Atrophying Graafian vesicles from follicular zone.

were evidently in an atrophic condition; only a single row of cells remained in the membrana granulosa; the contents formed

¹ Loc. cit.

a turbid granular mass. Usually only one atrophying vesicle was found, or the follicular zone was converted into dense connective tissue, interlacing as if to form solid nests (Fig. 9 A). This may be contrasted with Fig. 9 B, which shows the follicular zone from the ovary of a young child crowded with Graafian vesicles. Fig. 1 represents, at a low power, a large section of the cortex, from which all trace of follicles were absent.

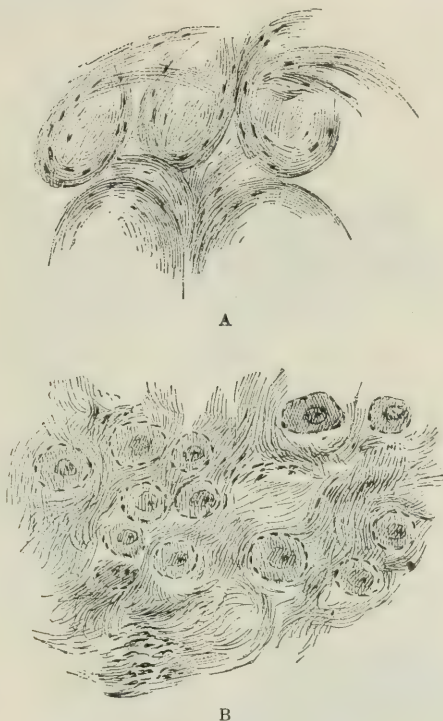


FIG. 9.—A, Appearance of solid nests in stroma of ovary after atrophy of Graafian follicles. B, follicular zone in ovary, young child, crowded with follicles. Oc. 3, object. 4.

On the other hand, several minute cavities were found lined with many layers of large polygonal cells forming a regular mosaic, and appearing like the membrana granulosa of a completely developed Graafian vesicle just before or at the moment of rupture. Such a cavity, slightly magnified under a lens, appears like a minute semicircle, one-eighth inch in diameter. Fig. 10 A represents the same at a low power of the microscope, oc. 1, object. 2. The cell-border of Fig. 10 is shown

distinctly in Fig. 10 B and C. In both cases the cells are large, with an extremely large round nucleus, deeply staining. There is no granular condition of the cells, which seem vigorously healthy.

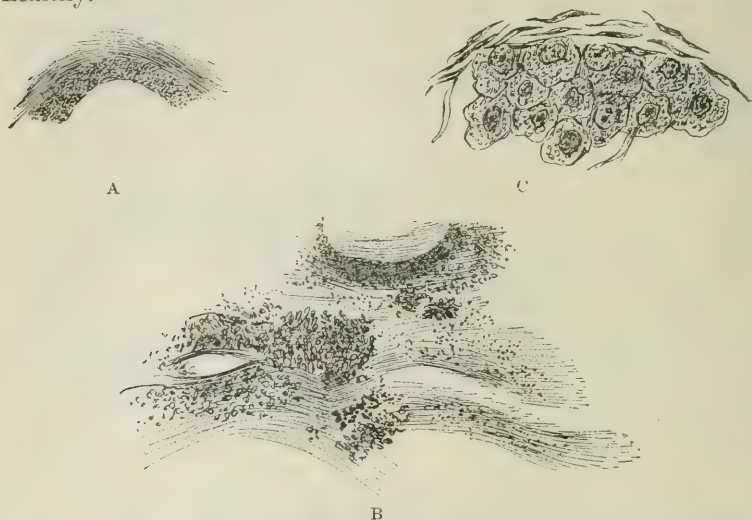


FIG. 10.—*A*, Minute cavity lined with polygonal cells. Oc. 1, object. 2. *B*, Similar cavity with surrounding tissue infiltrated with cells. Oc. 1, object. 2. *C*, Cell border more highly magnified. Oc. 2, object. 9.

At Fig. 11 *A*, however, is another cavity, represented at a higher power, but in reality decidedly larger than the others, with a border of cells very much smaller, each round, without a nucleus, but containing one or two rather large fat-globules, and



FIG. 11.—*A*, Cavity with cells of border breaking down. Oc. 3, object. 4. *B*, Same cells enlarged, showing oil globules. Oc. 2, object. 9.

sometimes also smaller granules. At the edge of the cut, thus towards the centre of the cavity, these cells are seen to be break-

ing down into detritus. The isolated cells are shown enlarged at Fig. 11 B. There can be no doubt that these cavities represented Graafian vesicles, and, as they were hollow in the centre, yet had not ruptured on the surface of the ovary, it is evident that their central contents, the ovule with its disk, had been destroyed. In Fig. 11, the fatty degeneration of the membrana



FIG. 12.—Section showing reticulated body (a); large vessels with commencing obliteration (b); other vessels with hyaline thickening (c). Oc. 1, object 2.

granulosa which was evident, occurred without the folding of the membrane, which precedes such degeneration in a true menstrual corpus luteum.

(c) The third noticeable peculiarity of these ovaries consisted in a great abundance of certain reticulated structures similar, probably, to those which have been variously described as "the

remains of regressing corpora lutea (Beigel¹), or as degenerate Graafian follicles which have developed and regressed without rupture.² The size of the structures varied immensely; some were five to six millimetres long, and then appeared to the naked eye as a smooth patch, distinguishable from the rest of the ovary by a slight difference in color difficult to define. Others were only discovered on the microscopic examination, but even then, if entirely seen, occupied the whole field, though examined with a very low power (oc. 1, object. 2).



FIG. 13.—Reticulated bodies. Oc. 1, object. 2.

Under the microscope, they are sometimes seen as irregular patches of amorphous, faintly staining tissue, bordered and penetrated by connective tissue and by large pigmented cells. The most usual appearance, however, is shown in Fig. 12 at (*b*), also in Fig. 13, A and B, belonging to case II. This last picture has a leaf-like appearance, and is undoubtedly identical with the "leaf-like structure" described by Noeggerath.

¹ Archiv für Gynekol., 1878, Bd. XIII.

² Doran and Harris: Journal of Physiology, Vol. XV. See also "Diseases of Ovaries" by Doran, 1884.

At a somewhat higher power (oc. 2, object. 4), it becomes evident that the reticulum is composed of strands of connective-tissue cells, sent off from the ovarian stroma in narrow bands, which make incomplete lodges on the periphery (Fig. 14, A and B). Often a rather broad band of connective-tissue cells passes down the middle of the structure (Figs. 14 and 13 of



FIG. 14.—Reticulated bodies showing connective-tissue skeleton. Oc. 1, object. 4.

case II.) In many of the largest patches, however, this central band was absent. From the periphery also, or from the invading bands, are given off numerous fine lines, short and curved, which thus form a delicate reticulum with very large meshes. These meshes contain a cloudy, amorphous substance, in which not even granules are to be detected. It stains with

eosin or hematoxylin, but its much lighter color brings the patch into forcible contrast with the surrounding tissue.



FIG. 15.—Section through very large reticulated bodies, which are shown in part; imbedded in vascularized stroma. (a) cloudy amorphous central part of reticulated bodies; (b) border formed by reticulum of connective tissue containing polygonal cells in its meshes; (c) blood-vessels with hyaline thickening; (d) stroma. Oc. 2, object. 2.

Not unfrequently, it was impossible to detect any cellular character in the ultimate fibres of the reticulum. In one sec-

tion from case II., however, branched connective cells were seen. In the majority of cases, the reticulated structure was immediately bordered by the stroma in which it was imbedded, and which invaded the body in strands continually subdividing, until at last reduced to a single row of connective-tissue cells (Figs. 14 and 15). In other cases, however, the cloudy reticulum

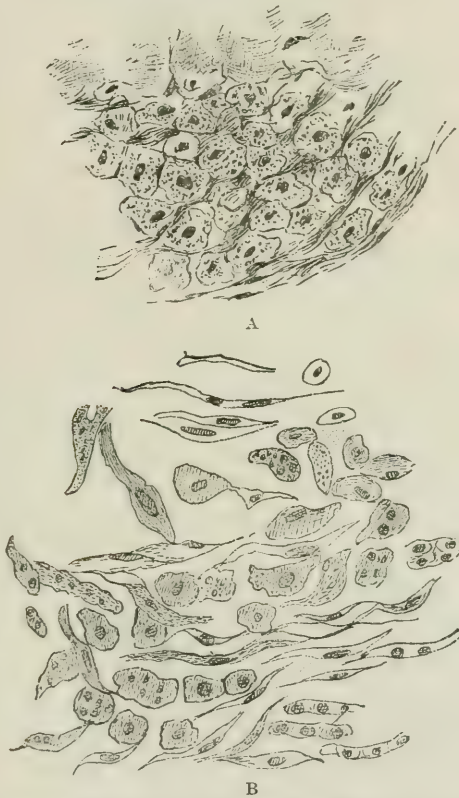


FIG. 16.—*A*, Magnified border of the reticulated bodies of Fig. 15, showing large cells lying in a reticulum of young connective tissue. Oc. 2, object 7. *B*, Another border, with looser reticulum. Oc. 2, object 7.

was surrounded by a border of polygonal and granular cells, lying in the meshes of another connective-tissue reticulum. Sometimes this was very broad, as in Figs. 15 and 16; at other times, there were only two or three rows of cells, smaller and not granular. Sometimes, again, vacuoles formed in the cells, which sent out prolongations, and seemed to be changing into

myxomatous tissue. Fig. 17 shows a cell border to a reticulated body which is remarkable, less for its breadth than for the immense size and completely granular character of the cells. In both respects, they contrasted with the cell borders found on

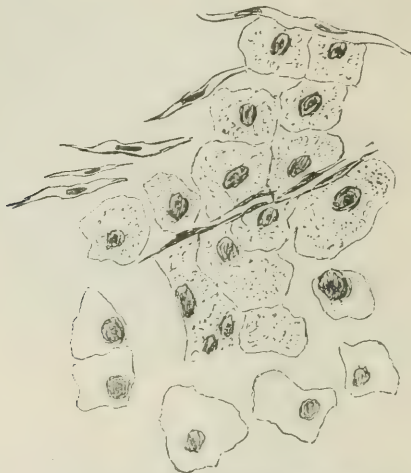


FIG. 17.—Border of reticulated body with immense cells. Oc. 2, object. 9.

the edge of empty cavities which offer the appearance of ruptured Graafian vesicles.

In Fig. 18, cells from the border of another section are

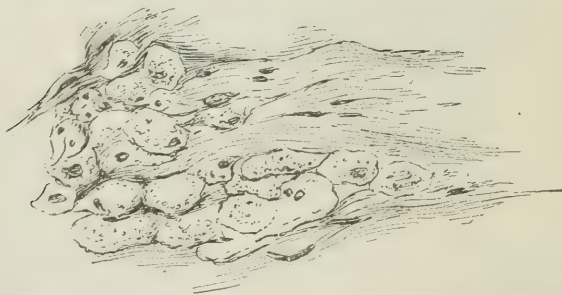


FIG. 18.—Cells from border of reticulated body breaking down. Oc. 2, object. 7.

shown to be breaking down. Many have lost their nucleus; some are reduced to a heap or ring of fine granules, lying loosely in a mesh of the reticulum. The fibres of this are much thickened.

The reticulated cloudy bodies, like the empty cavities, are

thus seen to be bordered in several different ways. The border consists of :

(a) The connective-tissue stroma of the ovary.

(b) Or of a border of nucleated polygonal cells, three or four rows deep, and of moderate size.

(c) Or of a similar border, but with the cells vacuolated, or entering upon myxomatous degeneration. In both *b* and *c*, an infiltration of precisely similar cells was usually found in the stroma at a little distance from the reticulated body.

(d) Sometimes this infiltration was accompanied by another of cells completely distended with fat-granules. When the polygonal cells were of medium size, these fat-cells were so also ; but in many sections, both kinds of infiltrating cells were greatly enlarged.

(e) In a fifth case, there was no infiltration beyond the limits of the reticulated body ; but the outer portion of this consisted of a close-meshed reticulum filled with polygonal cells, and forming a broad border to the cloudy reticulum.

(f) In a sixth case, a cellular reticulum also bordered on the cloudy body, but it did not seem to form part of it as in (*e*), but rather of the surrounding stroma with which it insensibly blended. The fibres of the reticulum were well developed, the meshes contained one, or sometimes two cells, and these were immensely large and finely granular. In one stage of their existence, they contained large nuclei ; in another, they had lost these, and become reduced to a mass of granules which gradually dissolved and disappeared.

The large-celled infiltrations were not always confined to the neighborhood of the reticulated bodies, but sometimes extended in large patches between connective-tissue fibres or spindle cells.

In case I. it was impossible to find any of the stellated bodies which customarily mark the regression of menstrual corpora lutea, although, as already mentioned, several sections passed through the walls of small cavities, bordered by a regular mosaic of cells, undoubtedly the membrana granulosa of ruptured follicles. In one section was observed a curious formation, identical in appearance with the corpora fibrosa which have been described by Patenko¹ as morbid degenerations of

¹ Arch. Virch., 1881.

unruptured follicles. Farre,¹ however, gives an exactly similar picture as the last stage of a corpus luteum of pregnancy. Now the patient of our case I. had certainly never been pregnant. The body (see Fig. 19) consisted of a homogeneous waxy-looking mass



FIG. 19.—Waxy-looking body resembling Patenko's description. Oc. 2, object. 4.

forming several narrow curves, apparently surrounding a patch of connective-tissue stroma. The origin of this strange-looking body could not be divined from its appearance.

CASE II.—Unmarried woman of 26. Operation performed for intense dysmenorrhea, accompanied by severe nervous prostration.

The operation, like that of the first case, was performed by Dr. Elizabeth Cushier. The patient recovered from the operation without a bad symptom, and was at once relieved from all the suffering so long experienced.

The external and internal surfaces of one of the ovaries, are represented in their natural size at Fig. 20. The number of



FIG 20.—A, External surface of ovary, Case II., natural size. B, Surface of section showing numerous stellate cicatrices.

stellated corpora lutea seems very considerable, but the picture closely resembles that given by Farre as normal. Perhaps, however, the specimens taken by this author were not really normal.

Besides these stellated cicatrices, there was one cavity the size

¹Cyclopedia Anatomy, Art. Ovary, 1859.

of a pea, and another much smaller, both evidently the remains of recently ruptured follicles. In the other ovary was a cavity the size of a large cherry, presumably the remains of the follicle which had been ruptured at the last menstruation. The wall of this cavity consisted of a deep border of polygonal cells lying on a delicate network of connective tissue, which seemed to have grown in between them. (See Fig. 21.) This cyst, therefore, was evidently of a different nature from the larger hemorrhagic cysts of case I., surrounded immediately by stroma, and evidently formed by an effusion of blood into this, an apoplexy. The cyst cavity of case II. resulted, on the contrary, from the rupture of a Graafian follicle at maturity.

The blood-vessels in only a few instances exhibited the hyaline thickening (Fig. 3 A and B). The reticulated bodies were less numerous than in case I. (Fig. 13).

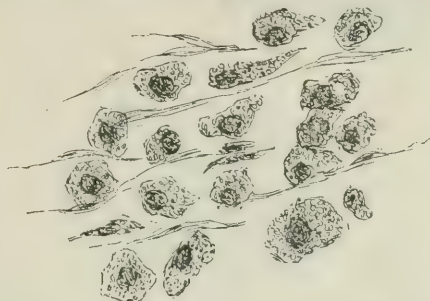


FIG. 21.—Border of polygonal cells to empty cavity, probably ruptured follicle.

Sections were made through the stellate cicatrices in order to compare these with the reticulated bodies. At Fig. 22 A, the section is seen to consist of masses of a cloudy structure, forming club-shaped projections from the connective-tissue wall; one of these is more highly magnified, and at Fig. 22 B a large projection is well represented. (Oc. 3, object. 4.) It is seen to consist of an amorphous mass, thrown up into large folds, each of which is subdivided by secondary folds. A strand of connective tissue runs down the middle of the primary fold, and each secondary fold is formed around a similar but smaller strand. A few fat-cells are scattered over the fold, but in the mass itself no cells are discernible. In one spot, however, the connective-tissue nuclei may be seen invading and segmenting the amorphous mass.

Comparison of these masses with the reticulated body represented in Fig. 13 shows: 1st. A close resemblance between the amor-

phous material forming the main part of the structure in both cases. 2d. A great preponderance of connective tissue in Fig. 13, where this has divided the amorphous material into a regular network of not very large meshes. 3d. In Fig. 22, the folded mass projects into a cavity. But, in Fig. 13, we find a reticulated body whose centre is entirely occupied by a broad patch of con-

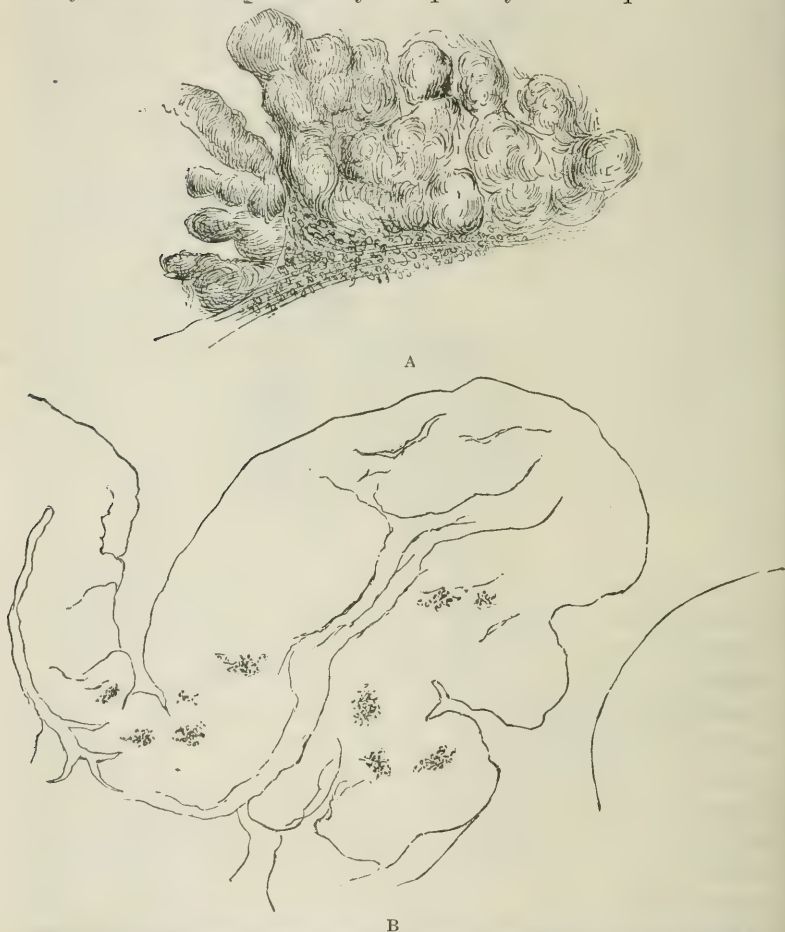


FIG. 22.—Cloudy masses forming borders of stellate cicatrices. *A*, at Oc. 2, object. 4. *B*, at Oc. 2, object. 7.

nective tissue. The frequency with which such patches do occupy the centre of these bodies suggests that the proliferating tissue has there found a space in which it had room to develop, and where, therefore, it grew most abundantly.

If, while the large folds shown in Fig. 22 constantly dimin-

ished in size from mutual pressure, the connective tissue at their base constantly sent out new off-shoots into the amorphous mass, finally growing into a thick mass which should fill up the central cavity, the process becomes clear whereby the stellate menstrual corpora lutea could be converted into these curious reticulated bodies. The last stage of the cicatrix is represented in Fig. 23. The origin of the cell-borders to many of these reticulated bodies is, however, by no means so clear. It has been shown that some of these are identical in appearance with those of ripe Graafian vesicles; that others seem to be forming myxomatous tissue: that others are smaller than the typical cell; and finally that others are very much larger and finely granular. In the typical corpus luteum, by the time the membrana granulosa has been thrown into folds, all cells have disappeared. (Fig. 22.) We are forced to conclude that, in certain cases, such cells abnormally

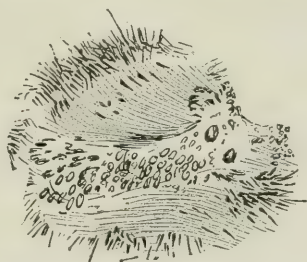


FIG. 23.—Cicatrix from menstrual corpus luteum. Oc. 2, object. 4.

persist, remaining at the borders of the corpus luteum, long after the main portion of this body has been converted into the cloudy reticulated structure. Sometimes, indeed, all the cells of the membrana granulosa persist, though containing fat-globules; and the connective-tissue cells grow between them. Thus are formed the large patches of cellular reticulum, so frequently found in case I. At other times, these cells do not only persist, but grow, becoming the immense elements depicted in Figs. 17 and 18. They then become granular, evidently as a preliminary step towards breaking down. The other method by which these cells disappear is through myxomatous degeneration. The fatty degeneration of such small cells as are shown in Fig. 11 evidently belongs to follicles which deliquesce before attaining complete maturity.

From what precedes, we fail to find evidence that these reticulated bodies consist of follicles which have regressed without

rupture, as Doran and Harris maintain. Rather do we consider them identical with those described by Beigel as menstrual corpora lutea. *The persistence of cell-borders, the formation of cell-patches, and the great abundance of the reticulated bodies in such cases as case I., all indicate, however, an abnormal prolongation of the process by which a normal corpus luteum, such as is shown in Fig. 22, should arrive at the final stage of a scarcely distinguishable cicatrix (Fig. 23).* Even this last figure shows a central mass of polygonal cells. It is noticeable that case II., where the ovaries contained so large a number of stellated cicatrices, and also of empty cavities (see Fig. 20), was much less rich in the reticulated bodies than case I., which did not show a single stellated cicatrix. Now the folds which constituted those cicatrices were composed completely of amorphous material, convoluted upon central strands of connective tissue, and into which new connective-tissue cells were beginning to penetrate. There was a complete absence of polygonal cells; only a few fatty cells were occasionally scattered sparsely over the convolutions. We may inquire, therefore, whether the starting-point of the abnormal process of regression is not some circumstance which, incidentally, interferes with the folding of the wall of the ruptured follicle.

This folding is attributed, we believe correctly, to the rapid retraction of the connective-tissue stroma in which the follicle is imbedded, and which constitutes the base of the membrana granulosa. As the latter cannot diminish in size with equal rapidity, it folds upon itself to be accommodated to the smaller space. The mutual pressure of these folds upon one another is the immediate cause of the arrested vitality of their elements, which results in the fatty degeneration of these latter.

The retraction of the connective tissue which initiates these changes depends upon its elasticity. During the rapid expansion of the follicle just previous to rupture, the surrounding stroma must be compressed. In virtue of its elasticity, it tends to return to its original condition when, by rupture of the follicle and evacuation of its contents, the compressing force is removed. If this elasticity be deficient, retraction of the tissue will be imperfect, the base of the membrana granulosa will be imperfectly compressed, hence the vitality of its cells will be little impaired; they will be able to persist, and even grow at an abnormal period and in abnormal situations. Conversely, when

we find these cells so persisting and growing, we may infer that the elasticity of the stroma surrounding the follicle has been imperfect, and that thus the retrograde metamorphosis of that body has been hindered. What should thus diminish the elasticity of this stroma?

The numerous large and degenerated blood-vessels found in the neighborhood of the reticulated bodies suggests a double cause. Even though these blood-vessels be not distended with blood, and in cases I. and II. they were uniformly empty, the hyaline degeneration of their inner and middle coats may be presumed to offer an obstacle to the collapse which should ensue, when the *vis a fronte* constituted by the nutritive demands of the ripening follicle had ceased to exist. Hence a mechanical obstacle to the retraction of the stroma surrounding them and the follicle together. Again, from such vessels abnormal transudations probably occur, which, by rendering the stroma edematous, cannot but diminish its elasticity. Again, although no such stasis of blood existed in these vessels as to leave them filled after death, it is evident that during life the blood-supply to the part must have been excessive, and necessitated by the enormous amount traversing the large (hypertrophied?) vessels at the hilus. An excess of nutriment easily appropriated by the large cells might enable them to abnormally resist the destructive agency of pressure at the moment immediately after the rupture of the follicle, when this was the strongest. The longer the delay in the disintegration of the cells, the weaker becomes the elasticity of the retracting stroma. The condition is homologous with that which so often exists in the uterus immediately after parturition, when the elasticity of the uterine wall is defective, and the first retraction of the emptied organ is, therefore, imperfectly effected. Blood sinuses which should be obliterated remain full, and a long train of morbid consequences follow, of which each tends to reproduce its own cause; and so in the ovary, the imperfect retraction of the perifollicular stroma upon the ruptured follicle, to which a perifollicular hyperemia predisposes, itself tends to perpetuate that hyperemia by removing a potent cause for the effacement of the (henceforth superfluous) perifollicular blood-vessels.

In this way would develop the zone of perifollicular hyperemia, described by Slavjansky, as so characteristic of "parenchymatous ovaritis."

This first form of the disease might, therefore, most justly be considered to originate in a subinvolution of the Graafian follicles, or of the reproductive tissue of the ovary, and thus be entirely homologous with the subinvolution of the endometrium which initiates endometritis.

The third case we have examined differed from the preceding in several particulars.

CASE III.—The patient was a woman of 45. For eight years she had suffered intensely from menorrhagia, and also from violent pelvic pains which lasted not only during the flow, but during such a period of time before and after it, that more than two weeks out of every month were given up to great suffering. A fibroid existed in the posterior wall of the uterus, and the organ was retroflexed, apparently on this account. The ovaries were not accessible to the touch. In the intervals of the menstrual suffering, there was little sensitiveness of the pelvic organs.

The operation was performed by Dr. Thomas at the New York Infirmary. The patient recovered without a bad symptom, and for seven weeks remained free from pain. Then there was a return of menorrhagia and dysmenorrhea, in no respects different from the habitual attacks; these continued to recur at intervals of four, five, or seven weeks for eighteen months. The intervals between them then gradually grew longer, extending to eleven and twelve weeks. Finally, during the third year, the attacks seemed to cease altogether.

The ovaries of this patient were very different from the others. To the naked eye, they were swollen, and, after long immersion in alcohol, of a deep reddish-brown hue in patches, which extended from the surface to the centre of the organ. Fig. 24



FIG. 24.—Sections of ovary, Case III., natural size, honey-combed with cavities in follicular zone.

represents a series of sections, drawn the natural size, and showing the number of cavities which honeycombed the cortex immediately beneath the surface. In the fresh state, these were all filled with blood; there were no cysts larger than are here represented. Throughout the ovaries, the dilatation of the blood-vessels was enormous, and these were all filled with blood (see Fig. 25 A and B). Occasionally one of these was found obliterated, but there was no degeneration or alteration of the walls. On the other hand, these engorged blood-vessels

were often surrounded with patches of cells which infiltrated the stroma for some distance. At Fig. 26, A and B are capillary vessels from which round cells are evidently migrating into the stroma. At C, in addition to the round cells, granular cells are found in the stroma adjacent to an engorged capillary. At Fig. 27 A, still larger and more granular cells seem to be mak-

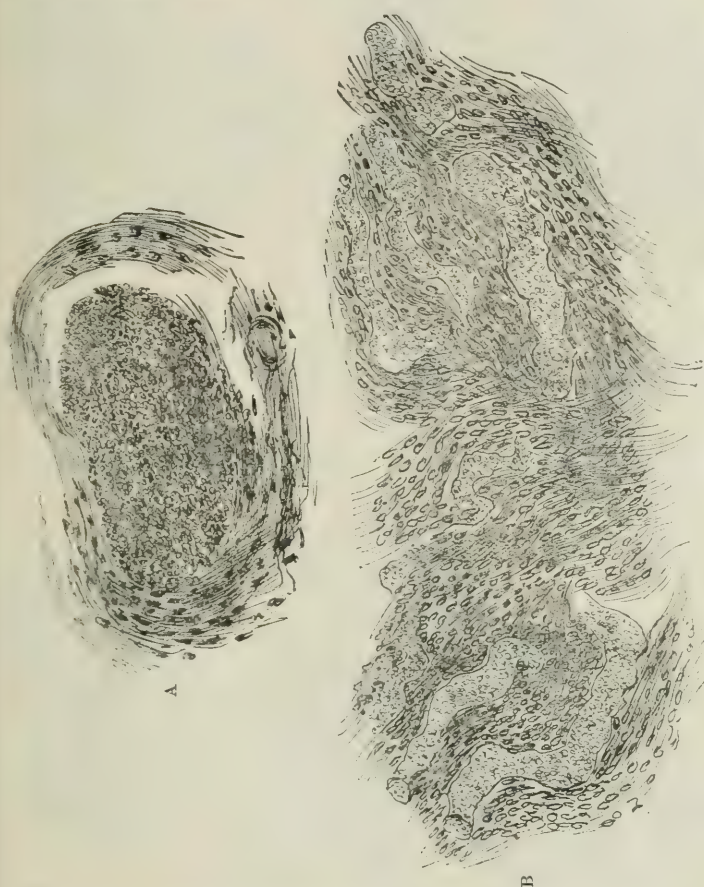


FIG. 25.—4. Enormously distended blood-vessel from ovary, Case III. Oc. 1, object. 4. B, Sections through medullary tissue exhibiting mass of similar vessels. Oc. 1, object. 4.

ing nests for themselves, among the dissociated elements of the stroma. At Fig. 27 B, similar cells are seen to be lining a cavity, the borders of which are infiltrated with round cells. In another section, new connective tissue was found forming the cicatrix of a recently obliterated cavity; in the border of the cicatrix were dilated capillaries, polygonal nucleated cells, and

large, irregularly-shaped cells filled with fat-granules. The intense hyperemia, pigmentation, and round-celled infiltration of the ovaries, in this case, indicates that severe diffuse inflam-

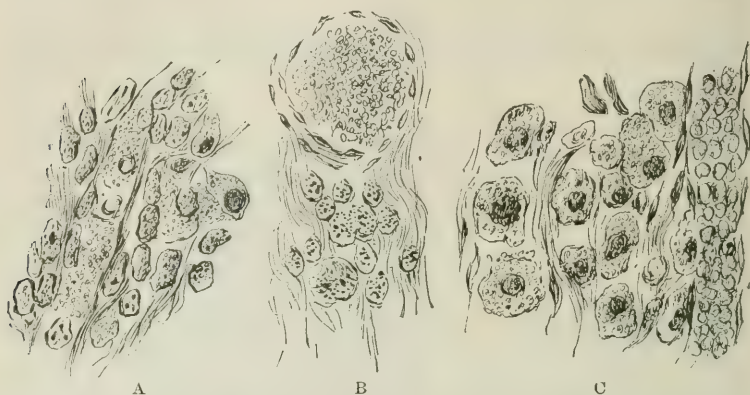


FIG. 26.—A and B, Capillaries in longitudinal and cross section, with round cells emigrating from them into stroma. C, Shows granular cells in stroma together with the round cells. Oc. 2, object. 9.

mation had existed. The case corresponds to Slavjanski's second or interstitial form of ovaritis; whereas in cases I. and II., the

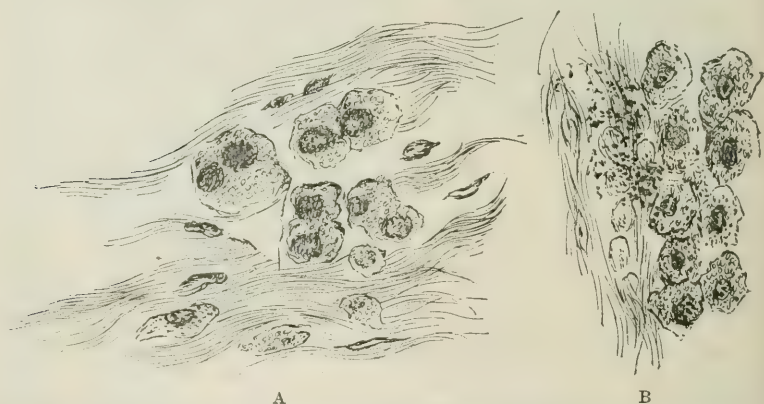


FIG. 27.—A, Large granular cells forming nests in stroma near engorged capillaries. B, Similar cells line cavity, whose connective tissue border is infiltrated with round cells. Oc. 2, object. 9.

lesions were degenerative and parenchymatous, *i. e.*, follicular, the hyperemia beginning in the perifollicular zones of the cortex. A few reticulated bodies were found, but very few in com-

parison with their abundance in the other cases. Fig. 28 shows a group of Graafian vesicles in a gradually progressive degeneration. The large number of hemorrhage cysts seems to indicate that, under the influence of the intense hyperemia, an abnormal number of follicles ruptured simultaneously, perhaps before complete maturity; while the cavities left after escape of the ovule filled with serum or, more frequently, blood. The hyperemia was evidently an extension of that of the uterine walls surrounding the fibroid. The cell infiltration which indicated that the transition from hyperemia to inflammation had been accomplished in the ovary, is probably a sign, therefore, that a truly inflammatory process had existed in the uterus, of which the localized enlargement of this organ, clinically diagnosed as a

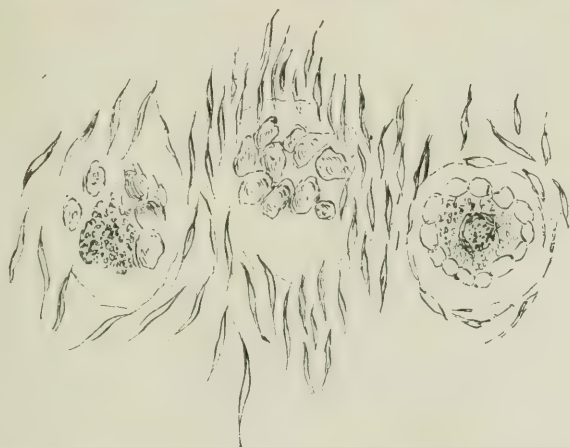


FIG. 28.—Progressively degenerating Graafian vesicles. Oc. 2, object. 7.

fibroid, was a product. The cellular infiltrations were of two kinds: 1st, resulting from a migration of leucocytes from the enormously distended blood-vessels; 2d, from the persistent vitality of the cells of the membrana granulosa of ripe or ruptured follicles. These cells not only persisted at periods at which, normally, they should have degenerated and disappeared; but seemed to have become endowed with a power of growth, which rendered them comparable to the malignantly vital cells of neoplasms. No positive evidence was found of their proliferation; but it is not impossible that this should be furnished by other cases. Thus the morbid growth in the uterus was paralleled in the ovaries, although in the latter organs the products

of growth remained microscopic, and were thus inaccessible to clinical observation.

The prolonged persistence of menstrual phenomena, after the ovaries had been removed, indicated a persistent power of growth in the reproductive tissues left remaining after this mutilation. This persistency is another manifestation of the abnormal power of development attained by reproductive tissues before the operation, as indicated by the uterine tumor, and by the cell infiltrations of the ovaries. It would be impossible to say, from the data of this case alone, whether this abnormal vitality had been determined by a pelvic hyperemia, or whether, on the contrary, the pelvic hyperemia had been initiated on the germinative membrane by disturbance in the processes of its rhythmic development. From other data, however, we may infer that the latter was the case; and further, that the hyperemia began in a subinvolution of blood-vessels at the uterine endometrium, and at the ovarian cortex, effected after the menstrual disintegration of one portion of the germinative membrane, and the follicular dehiscence at the other. There is a mysterious point in the history of all cellular pathology, where it is impossible to distinguish, in the morbid process, the rôle of the vascular hyperemia, and of the intrinsic activity of the cell. In heterologous neoplasms, the initial step is usually referred to cells special in nature, even when similar in form to those of normal tissues. In inflammations, according to modern doctrines, it is the injury of blood-vessels which seems to constitute the first step in the process. The series of changes which occurred in case III. combined those of inflammation and of neoplastic growth. Blood-vessels were enormously dilated and engorged, and so injured that extensive migration of leucocytes occurred. But, in addition, the elements of reproductive tissues grew with abnormal activity, and failed to regress. The clinical symptom of this latter condition was the profuse menorrhagia; of the first, or inflammatory state, were the violent pelvic pains, and both elements of the morbid process evidently arose from perversion of corresponding elements in the menstrual process, which contains, within itself, the germs of both inflammatory and neoplastic disease.

The large number of distended follicles found in the ovaries of case III. renders it comparable with the cases of Leopold's series of twenty-two oöphorectomies. In nearly all of these, the

number of distended or cystic follicles which were found co-existing on the ovary was very remarkable. In the majority of the cases, menorrhagia had been a prominent symptom, and even the main operative indication. The distention of the follicles in Leopold's cases and in ours was, it seems to us, the passive consequence of the hyperemia causing the menorrhagia.¹

In these cases, the hyperemia of the ovarian cortex originated in the medulla and hilus of the ovary by extension from the engorged utero-ovarian plexus. In other cases, it may originate in subinvolution of perifollicular blood-vessels, and gradually extend downwards. In the first series, an interstitial ovaritis complicates a parenchymatous metritis. In the second series, a parenchymatous ovaritis becomes associated with a fundal endometritis, not by extension, but through community of causal conditions. For the nervo-vascular supply of the ovary and of uterine fundus are the same; whatever lowers arterial tension in the one part of the generative membrane will do so in the other, with the same consequence of increased venous hyperemia and subinvolution of the reproductive tissue which has accomplished its cycle.

The symptoms of any form of ovaritis resemble in so many respects those of internal endometritis that it is often quite difficult to differentiate between the two. In both there is usually nausea, tympanites, burning in the dorsal region of the back, mental depressions or perversions. Characteristic of ovaritis, however, is the peculiar pain produced by deep pressure in the lateral regions of the hypogastrium, extension of pain down the thighs, excitation of pain by sudden jarring of the pelvis, sometimes by defecation, exacerbation of pain and of irradiated nervous symptoms during the premenstrual week, with prompt relief of all during the flow. There is no such thing as "ovarian dysmenorrhea;" this misnomer can only refer to premenstrual, or, possibly, to the intermenstrual pain. In a case related by Tait as typical, the menstruation was profuse but painless; pressure over the ovaries gave sickening pain; there were marked symptoms of cerebral anemia. "The patient always seemed better in health during the flow, a very common peculiarity. . . . In such a case, there cannot be a doubt that there

¹And hence the inferences drawn by Leopold from these facts, namely, that there is normally no rhythm in the ripening of follicles, seems to us quite erroneous.

is hyperemia of the ovary and of the whole sexual apparatus, due to or accompanying increased ovarian activity." (Loc. cit., p. 89.)

Now it is quite illogical for Tait, with his views on the essentially passive nature and functions of the ovaries or "oögonia," to admit such causality as "an increased ovarian activity." Schott is, however, within the current range of ideas when he says: "It is doubtful whether these irritable conditions of the ovary are really inflammations; but it must be admitted as possible that they are the cause of the accompanying menorrhagia. For still, in spite of all objections, Bischoff's doctrine holds that menstruation depends on ovulation. The entire sum of excitations of both ovaries is the efficient cause of the new formation of the endometrium and recurrent congestion of its blood-vessels; that an increase of this irritation may be a cause of menorrhagia is, therefore, in accord with both clinical and pathological research." (Loc. cit.) There is no way of explaining the origin of a primary cortical hyperemia, *i. e.*, a hyperemia which does not originate in engorgement of the vessels of the ovarian bulb, except by subinvolution of perifollicular blood-vessels. But the hyperemia, once established, cannot fail to react upon young follicles, quicken their early growth by hypernutrition of their epithelioid contents, and hasten their rupture by premature serous effusion, or connect large and distended follicles whose rupture is hindered by thickening of the surrounding stroma, which fails to become compressed or atrophied at the proper moment. In the complex process, each element reacts on the other, and it is certainly conceivable that the morbid hyperemias and cell activities of the ovarian cortex should quicken the growth of the ovarian plexus, and result in drawing a larger amount of blood into it, to be discharged at the menstrual crisis. Hence the menorrhagia, which is so frequent a symptom precisely of that form of ovaritis which is unattended by demonstrable enlargement of the ovary, and which is probably, therefore, cortical or parenchymatous. Such menorrhagia may even be the most prominent symptom of "ovarian irritation." It is then that we may often trace the initial phase of the whole morbid process to vaso-motor relaxation of ovarian arterioles from exhaustion of centres in the lumbar spinal cord.¹

¹Up to this time, all ovarian nerves have been traced exclusively to blood-vessels, thus are exclusively vaso-motor.

CASE 42.—Unmarried girl, æt. 24, anemic in appearance, but in good health until two years previous to consultation, when subjected to some over-exertion. Since this time the menstrual flow much increased in quantity. Much walking will sometimes stop the flow, but on the next occasion the menstruation will be painful, as, habitually, it is not, and the flow will be increased. At present, patient much debilitated, and has a loud, venous hum in the jugular vein, cannot walk five or six blocks without suffering from sensations of burning and pressure at the vulva. Much constant burning between shoulders, no tender points over spine. Apt to awaken in the morning in perspiration. No spontaneous pain but this elicited by deep pressure in left ovarian region. No ovary perceptible, uterus healthy.

All symptoms disappeared under the use of the cold shower bath. To this was added a daily dose of gelsemium (gtts. x. fl. ext. at bedtime), and a drachm daily of bromide of potassium. This sedative medication was in deference to the theory advanced that "irritation" of the ovarian nerve is a factor in such menorrhagias. But with such a powerful adjuvant as the stimulating effect of the cold douche on the spinal cord, it is difficult to estimate the precise influence of the drugs. In the following case it did seem possible that such sedative medication was of service.

CASE 43.—Married two years, during which life spent in southern climate. Menstrual flow lasts seven to eight days. In intervals, much dragging about hips and back. Uterus moderately congested. Symptoms entirely relieved by treatment, principally hydrotherapy and massage; returned, after a few months' residence in South, again. Suggested (by letter) gelsemium and bromide of potassium, as remedy for menorrhagia. After a month of this medication, menstruation failed to appear; patient found herself pregnant for the first time after a marriage of three years; though a child had been ardently desired from the beginning of married life.

CASE 44.—(The final history of this case is related by Mundé, who operated on it, in the *New Eng. Med. Monthly*, Sept., 1884.) Profoundly anemic girl of 20. Mother had suffered from intense chloro-anemia during her own adolescence; father and brother from chronic eczema. At the age of 20, patient began to suffer from constant pain in left ovarian region. Tenderness on pressure, but no ovary perceptible; menstruation profuse but painless. Some months after last consultation, sudden attack of partial paraplegia, disappearing in twenty-four hours. A few weeks later, returned and became permanent, though never complete. Uterus found retroflexed, with ovary in cul-de-sac. The case then became complicated with the most violent dysmenorrhea and with prolonged pelvic pains until life was a burden. No relief was afforded for eight years; then the ovaries were removed, and the patient recovered completely. To the naked eye the ovaries appeared normal.

It is to be regretted that no microscopic examination was made. Clinically the case greatly resembled our case II., though the symptoms were much more severe. In our case, the ovaries looked normal to the naked eye, and even to microscopic examination the degenerative changes were only incipient.

In cases like these, it seems to be the process of menstruation which exhausts the nervous system of the patient, rather than local ovarian disease.

CASE 45.—Unmarried girl of scrofulous lymphatic appearance, aged 20. During three or four years, had suffered from constant and severe pain in the left ovarian region, radiating to the back, hip, and thigh; accompanied by burning in the back, especially the dorsal region, much intensified during the premenstrual week, but a good deal relieved by the menstrual flow, which was extremely profuse and lasted seven or eight days. There was no dysmenorrhea. If, by ergot, the flow was diminished, the patient felt worse. There was much pain on pressure in the left ovarian region, both externally and per vaginam, but no ovary could be felt. The uterus was quite normal. The most distressing feature of the case was a permanent sexual erethism, for the relief of which the clitoris had been amputated without benefit. The patient was anemic and heavy in appearance, and claimed to feel constantly exhausted. Voluntary masturbation was strenuously denied, and from many circumstances did not seem probable.

The peculiar sensation of burning in the dorsal region of the back is often seen in either endometritis or ovarian irritation. It perhaps tends to confirm the hypothesis of Ross, that the bipolar cells of the columns of Clarke, limited to the dorsal cord, are the central nerve ganglia for the visceral nerves of the abdomen.

From the foregoing considerations, it appears that if there be no such thing as ovarian dysmenorrhea, ovarian menorrhagia is a very real, important, and not unfrequent condition. Its importance, indeed, has recently been signalized by several authors; but in practice we believe it still is true that the symptom is often overlooked *because* the patient suffers no pain at menstruation, and herself is usually unable to estimate the severity of the flow.

Medullary or interstitial ovaritis is invariably preceded by metritis. But, as shown by the above cases, cortical ovaritis, which has occasioned no symptoms but the menorrhagia and the nerv-

ous symptoms of "ovarian irritation," may precede an endometritis, and even exist alone for a long time.

In the following case there was cause for both the cortical and medullary form of ovaritis; for there was metritis of long standing, and also such spinal cord exhaustion as rendered vasomotor relaxation constantly imminent.

CASE 46.—Unmarried woman, æt. 28. Had always suffered from some cramp-like dysmenorrhea, and was a constitutionally anemic and nervous person. During nine years, had endured much fatigue in teaching; also more recently, from moral worry and anxiety. Coincidentally with this latter circumstance, during the week before menstruation, had begun to suffer from pain in the left ovarian region, sometimes running down the thigh, and much aggravated by jar; also by a burning, dull, steady pain all over hypogastrium and round hips, less in back, beginning a week or more before menstruation, then passing into a violent dysmenorrhea during the first two days of the flow. Pain also in dorsal region of back. No tympanites.

Uterus moderately anteflexed, cervix red and swollen, external os dilated, canal filled with gelatinous and mucous discharge; endometrium sensitive and bleeding easily; ovary not perceptible, but pain elicited on pressure in left cul-de-sac of vagina.

Direct engorgement of the ovarian bulb from suppression of a menstrual flow may cause prolonged hyperemia of the ovary, and after this has subsided sufficiently to restore the normal size of the organ, which returns to its place and thus ceases to be accessible, the effects may still persist at the cortex, occasioning all the symptoms of ovarian irritation.

CASE 47.—Girl of 20, subject to many hysterical symptoms and to prolonged periods of amenorrhea. Menstruation first became regular when patient was 19, and remained so for a year, during six months of which time she was confined to her room with an hysterical (?) arthralgia of the foot. At the end of the year, on the second day of menstruation, experienced a severe moral shock; menstruation ceased immediately. Severe abdominal pains set in, confining the patient to bed. A week later, local examination found the uterus retroverted, the left ovary partly prolapsed, enlarged, and sensitive. Menstruation did not return for a year, and ovarian pain persisted for three years, although the retroversion was at once corrected; and the ovary, after a few months, was no longer accessible. During this time the patient was scarcely able to walk.

A similar dependence of ovarian hyperemia upon congestion of the peri-uterine vessels is not unfrequent when this congestion is associated with retroversion, or a retroflexion developed from it.

CASE 48.—Married four years, æt. 25. Probably at least cervical catarrh for a much longer period, for patient had always suffered from leucorrhœa; also from cramps on the first day of menstruation. During year before consultation, patient had suffered more from dysmenorrhœa, also from general pelvic pains, pain across small of back, nausea. Uterus in partial retroflexion, cervix soft, red, puffy, os abraded, canal dilated, but internal endometrium not very sensitive. Right ovary accessible, slightly enlarged and tender.

The ovary had evidently been carried down by the retroversion and flexion of the uterus and was easily reduced with that. A month after this reduction, during which time electricity and nerve sedatives (gelsemium) had been used, ovarian pain entirely disappeared.

CASE 49.—Multipara, retroversion occurring somewhat suddenly during an effort, three years after a laceration of the perineum. Whenever the uterus was well supported by a pessary, the patient suffered no pain; but when, as frequently happened until the laceration was repaired, the pessary slipped, and the fundus uteri fell over its bow, severe pain set in at the left ovarian region.

These cases illustrate the important fact, that an ovarian swelling or even prolapse, resulting from a uterine displacement, the latter unattended by parenchymatous metritis, is at first easily remediable, because mechanical, and not associated with structural changes of the ovarian tissues. If the condition be prolonged, these changes may, however, occur. Considerable cystic degeneration of the ovaries is compatible with freedom from discomfort, provided actively progressive processes are arrested, and hyperemia is allayed. If dysmenorrhœa exist, it is traceable to an endometritis.

CASE 50.—Married woman, æt. 24, married three years. Subject to severe dysmenorrhœa since first year of menstruation, but at different times this spontaneously disappeared for a year at a time. Treated a year or two before consultation by Dr. Sims, who performed bilateral section of the cervix. Operation followed by attack of parametritis of moderate severity. Some relief to dysmenorrhœa for a short time, then this became as violent as ever. No intermenstrual pains. Examination found uterus anteфлекed, cervix healthy, canal dilated, passage curved, passage of probe to fundus not difficult nor painful until fundus reached, then much pain and bleeding. Both ovaries much enlarged, but not at all sensitive. It was inferred that the dysmenorrhœa was due to a fundal endometritis, and, notwithstanding the ovarian complication, it was decided, with all precautions, to make an application of carbolic acid to the fundus. This was done twice,

immediately after a menstrual period, the patient remaining in bed for twenty-four hours. After the first application the pain at the succeeding menstruation was much diminished; after the second, the patient was so much improved that further treatment was discontinued. The improvement was maintained during the next three years, although the condition of the ovaries remained precisely the same.

This immunity was all the more remarkable because the ovarian enlargement in this case seemed to have originated in a fundal endometritis, associated with anteflexion, and developed early in menstrual life. It is precisely this class of cases which usually prove the most severe, unmanageable, and obdurate.

From what precedes, we may fairly infer that the typical form of ovaritis, the parenchymatous, *is entirely homologous in its development with menstrual metritis, or internal endometritis*, with which it is almost invariably associated. *It originates in a subinvolution of reproductive tissue*, of the perifollicular zone of blood-vessels, causing cortical hyperemia, of the menstrual corpora lutea, determining an excessive abundance of reticulated bodies, an abnormal persistence of the membrana-granulosa, and infiltration of the cell elements of the latter among the stroma. Even the first obliteration of the cavity of ruptured follicles is delayed; or even again, the rupture itself, so that the ovary gradually becomes studded with empty stationary cavities, or with closed cysts, filled with blood or serum. To these results of subinvolution may be subsequently added the products of a temporarily quickened process of follicular development. So the thickening of the endometrium, first caused by subinvolution, is often increased by growth of blood-vessels, glands, or interglandular tissue, favored by an excess of venous blood.

The second form of ovaritis, which begins in the medulla and hilus, is secondary either to the cortical disease, or by extension through the utero-ovarian plexus, or to uterine lesion. In one case, however, this form is also the result of reproductive subinvolution. It is when the ovaries, enlarged during a pregnancy, fail to regress after confinement (Tait). The case is then strictly analogous to the parturient subinvolution of the uterus. Ovaritis is, however, characteristically a disease of nulliparæ, and of young women who usually show signs of constitutional deterioration. It is not youth which constitutes the predisposition, but it would seem that in such constitutions,

neurotic or scrofulous or both, the menstrual process cannot repeat itself many times without becoming morbid. The nutritive processes sustained in the ovary are fundamental, rudimentary, the most so, perhaps, of any in the organism. They are stamped, therefore, with the character of the fundamental processes of nutrition, as these are sustained in the rest of the organism. The character of the fundamental nutrition of the nerve centres, the most inheritable constitutional peculiarity, reflects these others, perhaps determines them. Hence the association of the great neuroses (including insanity) with phthisis, of hysteria with tuberculosis.

Hence we would suggest the most comprehensive reason for the facility for aberration in those possessed of reproductive nutrition, which are involved in ovulation, and the rhythmic evolution of the endometrium. Hence the frequent subinvolution of both portions of the germinative membrane. Hence, in the same class of patients, and even in the same patients, other aberrations of the menstrual process, which result in arrest of all the periods of this evolution, thus prolonged amenorrhea. The type of the latter is seen in the amenorrhea of melancholic insanity.¹ If such patients marry, they often remain sterile, or, after one confinement, suffer from subinvolution, and never conceive again; or, after one severe labor, pass through a second confinement fortunately, and then, for the first time in their lives, acquire good health. Finally, in a not inconsiderable number of such patients, the very first pregnancy seems to permanently rectify the malnutrition of the reproductive tissues, and the patient is thenceforth enabled to traverse with impunity both menstrual and parturient cycles, because their evolution has been raised to a more vigorous type.²

¹ Yet it is the fashion at present to trace all uterine disease in young girls to the Latin and Greek, which, in about one case in some thousands, they imperfectly acquire.

² Unfortunately, the children of such patients are only too apt to inherit and reproduce the original debility of the parent organism, instead of its acquired vigor. We could detail many remarkable instances of this.

REPORT ON GYNECOLOGY AND OBSTETRICS.

BY

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PROFESSOR TARNIER recently described, before the Academy of Medicine, a method of artificial alimentation applicable to prematurely born children. It consists in *gavage*, or forced feeding by means of a rubber tube, similar, indeed, to the means in use for adults. A soft-rubber catheter, of medium calibre, is passed into the esophagus, and from eight to ten grams of milk is poured through it, and then this tube is quickly removed. Asses' milk, pure or diluted, may be used, but woman's milk is to be preferred. Mr. Tarnier showed the Academy two infants born before term, lying in the incubator, and which were being fed after this fashion. The one, at birth, weighed 1,020 grams; twenty-one days thereafter it only weighed 850 grams; and twenty-two days later it was gaining, its weight being 955 grams. In short, the incubator on the one hand, and *gavage* on the other, are likely to be of great utility, in particular where it is a question of rearing premature infants.

M. Lazarewitch, professor at the university of Kharkoff (Russia), has published in the *Annales de Gynécologie* an interesting paper on lateral deviations of the uterus, in connection with peri-uterine tumors and the mechanism of labor. A number of the points incorporated in this article have already appeared in the transactions of the Copenhagen International Congress. Congenital deviations are dependent on two causes: 1. Relative inequality in the uterine ligaments. 2. Want of symmetry in the vagina. Left lateroversion is the most frequent variety. These deviations are frequently undiscovered, for one finger is not sufficient to make out the position of the uterus; it is essential to touch first with the finger of one hand, and then with that of the other. When the gravid uterus is lateroverted, at the onset of labor a special cause of dystocia may exist, which it will be well for the accoucheur to recognize. The uterine orifice does not correspond to the middle of the pelvic inlet. The fetal part, which is presenting, and which is being driven forward by the uterine contractions, does not rest to advantage on this orifice,

whence prolongation of labor. When the cervix is deviated anteriorly, it is the posterior portion of the inferior segment of the uterus which dilates, and there results the pathological condition to which the term *sacciform dilatation* has been applied. This deviation of uterine orifice may be corrected by the position of the woman, and by means of the finger. These are the two therapeutic means to which the doctor should resort.

Dr. Pinard has experimented, in his service at the *Lariboisière*, with continuous intrauterine irrigation as a prophylactic and curative agent in puerperal septicemia. This treatment had never as yet been carefully tested in France, although, since its introduction by Schücking into practical obstetrics, it has found adherents in many German accoucheurs. The method consists in the introduction of a metallic tube, of special curve, into the uterine cavity, and the passing of a continuous current of liquid through this cavity. We will not rehearse here the details of the method, which are to be found in the *Annales de Gynécologie* for January, 1886. Suffice it to state that the solution used was, for a few seconds, of mercuric biniodide (1-2,000), followed by a solution of carbolic (1-100) continuously. The irrigation is continued until the temperature falls to the normal, and remains there for several hours. The author has thus treated sixteen cases. In four the irrigation was used prophylactically after tedious labors. In four cases, at the outset, only vaginal irrigation was resorted to, and later intrauterine. Of the sixteen cases there were five deaths, and in one of these cases only vaginal irrigation was employed. Of these five women only one contracted septicemia in the service; the others were infected outside.

Such, in brief, are the results obtained from continuous uterine irrigation, and they ought to encourage accoucheurs to make renewed trial of the method.

In an excellent work, published by M. Lecorché, on diabetes in women, we find the connection of glycosuria with uterine physiology and pathology clearly traced. According to this author, diabetes is found in women in particular at the extremes of genital life, that is to say, before puberty and after the menopause. When the disease appears during menstrual life, it is more fatal and of worse prognosis. Vulvar eczema, and sciatica, often accompany diabetes; also granular metritis and ulcerations of the cervix. Glycosuria may be accompanied by amenorrhea, dysmenorrhea, or metrorrhagia, not dependent, indeed, as one would *a priori* think, on alteration in the blood, but on a uterine lesion. Sterility is common in diabetes, and the cause, probably, is also

local. When conception ensues, pregnancy pursues a normal course, labor passes by without complication, diabetes thus markedly differing from albuminuria. The children, however, are rarely viable, some being feeble, others hydrocephalic. No sugar is to be found in their urine. Contrary to Duncan's opinion, Lecorché does not believe in the pernicious action of diabetes on the puerperium. In the five cases which he observed, this epoch was normal; whilst out of Duncan's fifteen cases there were eleven deaths. Pregnancy superadded to diabetes aggravates in a marked way the disease. Transitory glycosuria is often seen in the puerperal state, and particularly at the onset of lactation, but this variety rarely ends in permanent diabetes.

In the month of July, 1885, M. Trélat read a paper before the Academy of Medicine on the subject of extirpation of the uterus. This operation, performed first in 1822, by Sauter, and, in 1829, by Récamier, was resuscitated in 1878 by Freund, and afterwards by many Germans, who, at this date, are apparently on the eve of abandoning it. In France it was cautiously championed by Demons (Bordeaux) in 1883; discussed before the Surgical Society in 1884, after the presentation of a paper by Boeckel (Strasburg); the subject of many papers before the Surgical Congress at Paris, in 1885, from which it appeared that of forty-one operations performed at different hospitals, during this year, there had resulted only three deaths, that is to say, seven out of one hundred. Encouraged by these figures, Messrs. Tillaux, Verrier, Trélat attempted the operation in Paris. Out of four cases, there were three cures. Since July, many like operations have been performed here. It is impossible for us to produce the figures; nevertheless from these cases the opinion is gaining ground that total hysterectomy should be abandoned, and partial amputation of the cancerous uterus substituted.

Of recent publications we would mention: The work on obstetrics and gynecology by Dr. Budin. This gentleman's name needs no introduction to the readers of the *AMERICAN JOURNAL OF OBSTETRICS*, for they know the great worth of his writings. During the course of a long and painful sickness, which he believed would be fatal, Dr. Budin collected in one volume all of his writings, those already published and those which he had completed. He wished to leave, at his death, his writings, re-united, for his friends and pupils. A friendly surgeon's hand saved the dying man's life, and enabled him to re-appear in the scientific world simultaneously with his book. This work of Dr. Budin's,

which we refrain from analyzing here, is one of the most valuable on obstetrics and gynecology which has appeared of late years.

We would mention also: "The Clinical Obstetrics," of Dr. Rodrigues Dos Santos, of Rio de Janeiro. The author, although Brazilian, has published his work in French—a language in which he is an adept. The first volume (it will consist of three) is introduced in a brief preface by Dr. Pinard.

"The Manual for Midwives," by Dr. E. Gallois, adjunct professor of medicine at Grenoble, is an elementary treatise for students, and contains nothing original.

The translation of Hart and Barbour's "Manual of Gynecology," by Dr. E. Grouzat, is preceded by a preface from Dr. P. Budin. The translation is from the second edition. Our readers are familiar with the English editions, and we believe it will be warmly received in France.

PARIS, January, 1886.

MYELITIS FOLLOWING PELVIC CELLULITIS.

BY

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MYELITIS following pelvic cellulitis must be a very rare disease, or else it has been very steadfastly overlooked. Through such gynecological text-books as Thomas', Barnes', Hart and Barbour's, Billroth's, and many others, and through such special journals as the *Centralblatt für Gynäcologie* (from 1877 to 1884) and the *Archiv für Gynäcologie* (from 1870 to 1884), I have looked in vain for a single case. This is the more remarkable as many cases are on record of temporary paraplegia during menstruation, notably those of Dechambre¹ and Churchill,² and as myelitis or some form of meningitis have been described as consecutive to parturition.³ Disease of the spinal cord and its membranes has also been known to ensue upon disease of the bladder and kidneys. Indeed, the literature of the lat-

¹ Gaz. Hebdom., 1862, p. 690.

² Dublin Journal, 1857. See also Gaz. hebdom., 1877, p. 439.

³ Leyden, "Klinik der Rückenmarks-Krankheiten," 2ter Bd., 1ste Abth., S. 228.

ter form of malady is quite copious, as I pointed out some years ago in my article on "The Effect of Genital Irritation in the Production of Nervous Disorders."¹ The old discussion of the existence and extent of reflex disorders impinged on this very point. Mr. Stanley, as far back as 1833, started the idea in his celebrated paper on "Urinary Paraplegia."² He narrated a number of cases in which patients were paralyzed, and died, and the autopsy disclosed kidney disease, whilst the cord seemed normal to the naked eye, from which he argued that the paralysis was of purely reflex origin. He was apparently corroborated by a small host of observers, such as Rayer,³ in France; Hensch and Romberg, in Germany;⁴ Holland and Graves, in Great Britain;⁵ Notta, Leroy d'Etiolles, Esnault, Landry, Macario. But Mr. W. Gull,⁶ afterwards Sir W. Gull, and Dr. S. Weir Mitchell⁷ pointed out, some thirty years afterwards, the perfect worthlessness of many of these cases as instances of reflex paralysis, partly because of the reason which seems so very apparent to us to-day that the cord might be seriously diseased and yet appear unaltered except to the microscope, and partly because there was nothing to prove that diseases assumed to be causes of the spinal affection might not be results or accompaniments of the latter. Still, although I am in entire accord with Sir W. Gull and Dr. Mitchell in doubting the validity of this proof as to pure reflex paralysis—*i. e.*, paralysis by mere reflex action, without organic disease in the central nervous organs—I cannot refrain from the belief that among these many cases of paralysis following or accompanying genito-urinary disease, intestinal troubles, pleuritic and pulmonary affections, there may have been instances in which the nervous symptoms were caused by the pathological condition of the viscera. Especially has there been reason to believe

¹ Annals of Anatomy and Surgery, January and February, 1882.

² Med.-Chir. Trans., Vol. xviii., 1833, p. 260.

³ "Traité des Maladies des Reins," vol. iii.

⁴ Romberg, "Lehrb. der Nervkr.," 1846.

⁵ Holland, Edin. Med. and Surgical Journ., 1845, vol. lxxiii., p. 325. Graves, "Clin. Lect. on Pract. Med." Leroy d'Etiolles, "Des Paralysies des Membres Inférieurs," Paris, 1846. Esnault, "Des Paraplégies Symptomatiques de la métrite et du phlegmon utérin." Macario, Union Méd., 1859, p. 276. Notta, Arch. de Méd., Nov. 1854, p. 556.

⁶ Med. Chir. Trans., 1856, vol. xxxix., p. 195.

⁷ N. Y. Med. Journ., 1866.

this of the pelvic viscera. Kussmaul¹ made an autopsy upon a man who had died after becoming paraplegic during chronic cystitis, and found atheromatous degeneration of the hypogastric arteries and fatty transformation of most of the nerve tubules of both sciatics. Leyden² has reported two cases of paralysis consecutive to vesical disease, in one also accompanied by urethral strictures of long standing, in which the cord was extensively softened, there being also cerebral foci of disease, the myelitis having begun at the points of exit and entrance of the vesical nerves. Two of Stanley's cases, and five out of forty-one cases collected by Leroy d'Etiolles, apparently came from gonorrheal implication of the urethra. G. Hirsch relates another such case.³ Leroy d'Etiolles has several cases of paralysis following urethral stricture. Leyden gives the following interesting history:

Patient, 30 years old. Suffered from strictures, following which he had a vesical fistula, which was operated upon, but primary union was not obtained. Shortly afterward lancinating pains began in the lower limbs, and sensation became impaired. These symptoms grew worse, so that the patient was finally paralyzed completely in motion and sensation. In five days more, the arms could scarcely be moved, respiration became difficult. In two days, the dyspnea was increased, and there was dysphagia and difficulty of speech, and complete paralysis of the arms. Death followed. The dura and pia were adherent, spinal fluid cloudy. The pia posteriorly up to the middle of the dorsal cord was infiltrated with pus. The cord itself was greatly softened in the cervical and lumbar enlargements. Small hemorrhages were found. There was a filbert-sized focus of softening in the brain.

Leyden gives the history of three similar cases, one seen by him in conjunction with Dr. Basler, of Offenburg, the others narrated to him by Professor Lücke, in all of which the cause was a hydrocele. One of these died, another passed from observation, and another made an excellent recovery. In the fatal case, the hydrocele was operated upon by electro-puncture; in the case of recovery the hydrocele was also operated upon by incision; in the other no operation whatever was performed. Experimentally, it has been demonstrated that a myelitis or pachymeningitis can be set up by a peripheral neuritis. Tiesler⁴

¹ Würz. Med. Zeitschr., iv., 56, 63. I know this only by the quotation in Leyden and Jaccoud.

² Op. cit., Bd. ii., 1 Abth.

³ Quoted by Leyden.

⁴ "Ueber Neuritis," Königsberg, 1869.

induced a sciatic neuritis in a dog, which was followed by paraplegia and speedy death. A collection of pus was found in the spinal cord, at the point of exit of the sciatic nerve. This purulent collection was three-quarters of a centimetre in length, and extended throughout the entire thickness of the cord. Feinberg,¹ of Kowno, has performed corroborative experiments. Setting up sciatic neuritis in rabbits by irritation with caustic soda, he found that this neuritis generally extended into the cord, and in a number of cases he observed a consecutive myelitis, sometimes of enormous extent, mainly in the gray substance, once extending to the medulla oblongata. Klemm,² of Strasburg, producing sciatic neuritis in rabbits by injection of arsenical solution beneath the neurilemma, regularly obtained ascending and descending neuritis, generally disseminated, which dissemination was characterized by intense injection and swelling of the neurilemma. The neuritis usually extended to the cellular tissue surrounding the dura (peripachymeningitis). This neuritis was of varying intensity and extent, sometimes involving the whole cord and even the brain. It would occasionally involve an opposite or other limb. Klemm, although not denying the supervention of myelitis in these experiments, claims that it is infrequent.

The two following cases, therefore, being the only ones which I have ever seen or heard of, are of interest.

CASE I.—I saw this patient in consultation with Dr. Samuel Santoire, who has kindly given me the following history: "I first saw the patient on October 16th, 1882. She had menstruated at fourteen, but was extremely chlorotic. Menstruation was always irregular and painful. Married at eighteen. For two years her condition was the same. I was informed that a sound had been introduced some six or seven times by her medical attendant, to dilate the internal os, and soon afterward inflammatory symptoms developed. When I first saw her, she had been ill six weeks. I made a digital and specular examination. The whole pelvic cavity was found to be completely filled with inflammatory products, the abdomen considerably swollen, and very painful to pressure. The pain was along the round ligaments, the whole pelvic circumference, and down the sciatic nerves to the knee-joint, so that the patient could not turn on either side, and could only be partially raised in bed. The gastric disturbance, which had been alarming in the first stage, had somewhat subsided. The patient was well nourished, but was in constant pain. The cervix could be seen with difficulty and much pain with the

¹ Berlin. Klin. Wochenschr., 1871, No. 41 and 1874, Nos. 44, 46.

² "Ueber Neuritis Migrans," Strasburg, 1874.

speculum. The os could not be entered with ease, although drawn above the cul-de-sac. The cavity of the uterus was somewhat shortened by long pressure, but was otherwise normal. I diagnosed the disease as peri-uterine cellulitis, well advanced in the second stage.

"On Nov. 1st, fluctuation could be felt in the left side of the vagina. I introduced a large hypodermic needle and filled it with thin pus. The symptoms had become aggravated, the stomacheic disturbance had increased, the pains had extended below the knee, especially on the left side, and bed-sores were beginning to develop. During all this time the bowels could be moved only by enemata, each movement containing pus and blood and being preceded by a chill. On Nov. 7th, Dr. T. G. Thomas was called in consultation, and decided that the chronicity of the disease and gravity of the symptoms would render an operation useless. The neuralgic pains had then reached the sole of the left foot, there was complete paralysis of the left lower limb, and incomplete paralysis of the right one." On Nov. 13th I saw the case. She was completely paralyzed in motion in both lower extremities, and the left upper extremity, whilst the right upper extremity was paretic. There was entire loss in the lower extremities of the tactile and muscular senses, marked impairment in appreciation of heat and cold, and there was decided retardation in the conduction of painful sensations. In the upper extremities there was moderate impairment of the tactile sensations only. Tendon-reflex of the quadriceps nil. There were troublesome bed-sores, a well-marked cincture feeling around the abdomen and thorax, and great pains in the lower extremities, this pain being no longer confined to the sciatics, but radiating throughout the limb. There was urinary retention and obstinate constipation. The optic discs were unaffected. The patient was generally emaciated, took scarcely any food, and was in constant pain. She died on Nov. 21st, in a comatose condition, death being preceded by two convulsions. Up to the time of the final coma, the sensorium remained entirely clear. Permission for an autopsy could not be obtained.

CASE II.—K. D., married, aged 30. Admitted to St. Mary's Hospital, Sept. 9th, 1884. Had a miscarriage six weeks before, up to which time she had been in good health. Began to suffer greatly from pain, sense of weight, etc., about the womb. About three weeks before admission, became aware that she was gradually losing power in her lower extremities—could get along fairly well on level ground, but had to be assisted over uneven places, up and down stairs, etc. These symptoms increased until about ten days before admission. She was unable to walk. On admission there was found to be absolute motor paralysis of both lower extremities, such motor paralysis of the upper extremities that she could only flex the fingers slightly, paralysis of the trunk muscles. The tactile, temperature, and muscular senses were almost totally gone in the lower extremities, and greatly impaired

in the upper. The sense of pain in both upper and lower extremities was unimpaired. There was urinary incontinence, but no rectal paralysis. Great sense of constriction about the abdomen up to the height of the sternum. Dr. John Byrne kindly made a vaginal examination and found evidences of pelvic cellulitis.

Dec. 10th—three months after admission—had regained control over the bladder.

Dec. 20th. Can move the right hand to some extent.

Jan. 5th, 1885. Can sit up in bed. But it was not until July, *i. e.*, ten months after admission, that she could walk about. Soon after she left the hospital, long before she should have done so, for she returned to life in a hovel and abject poverty. Her present condition is as follows: She can walk a short distance. Her upper extremities have regained power, so that she can sew, do household work with them, etc., but the grasp of the hand is still weak. The tactile, temperature, and muscular senses are still greatly impaired. She has regained entire control over the bladder. Dr. A. H. Buckmaster made a vaginal examination for me and finds that there is still a peri-uterine inflammatory condition—indeed, from what the woman tells us, she has probably suffered greatly from this since she left the hospital.

Case I. was, I presume, primarily a case of pachymeningitis with myelitic extension, whilst case II. was a case of myelitis transversa.

REPORT ON THE PROGRESS OF OBSTETRICS AND GYNECOLOGY IN GERMANY.

BY

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NOVEL and interesting *contributions to the question of the Cesarean operation* have been furnished by Kehrer (Heidelberg) and Obermann (Credé's clinic). Kehrer operated on two parturients according to the method devised by him some years ago (deep transverse incision with accurate peritoneal suture). In one case the pelvis was generally contracted, with a conjugate measuring seven centimetres; fever had set in, and the child was still living; in the other case the pelvis was much narrowed by osteomalacia. The former patient died of sepsis, the other recovered promptly. In Credé's clinic, three Cesarean operations were performed according to Saenger's method (two by Saenger,

one by Obermann). In these three cases, the indication was a relative one, that is to say, the pelvis were such that delivery would have been easily possible by craniotomy. In one case with an obliquely contracted pelvis, the diagonal conjugate even measured eleven centimetres. In these three operations, attention was principally directed (aside from rigorous antisepsis) to an accurate uterine suture conjoined with a special suturing of the peritoneal covering. All the patients recovered with hardly any untoward accident. Although it appears somewhat risky, on the strength of the experience gathered from the results thus far reported, to extend the indications for the Cesarean section even now to such cases, it is certain that this will probably take place in future as the results will improve. At all events, it seems to be proved that even the old Cesarean section begins to give better results when the cases are properly selected and the operation is earlier resolved upon.

One of the factors which, aside from contracted pelvis, gives rise most frequently to the Cesarean operation, that is, *tumors occluding the parturient canal*, has been the subject of a very interesting paper read on January 22d, 1886, before the Berlin Obstetrical Society by Dr. Stratz, who had collated the necessary material from Schroeder's clinic during the time from April 1st, 1876, to January 1st, 1885. The paper comprised all complications of tumors (myoma, carcinoma, ovarian tumor) with pregnancy and labor. The prognosis proved exceedingly variable, depending on whether the patients came under treatment during pregnancy, or not until during labor. There were observed altogether 28 cases of such complications with pregnancy, in none of which the mother died, and in 15 of which the children were saved. On the other hand, among 17,832 labors, there were 25 cases complicated with tumors; of these, 15 mothers died, and 13 children remained alive. The details were as follows:

1. *Complication with ovarian tumors.*

Ovariectomy was performed 14 times during pregnancy; all the mothers recovered, and, with one exception, went through normal labor (one case of twins). Ovarian tumors were observed 5 times during labor; of these, 1 mother died of peritonitis after rupture of the tumors, 3 children were born living, 2 died during labor.

2. *Complication with myomas.*

There came under observation 10 *pregnancies* complicated with myomas; in 4 cases abortion set in spontaneously, in 3 it was induced artificially; in 2 the entire uterus with the myoma was re-

moved in the third and fourth month of pregnancy respectively; in one a myoma the size of a child's head was removed from the gravid uterus in the fifth month of pregnancy (the patient was delivered at term of a living child). Therefore, all the mothers recovered.

In 13 cases, *labor* was complicated with myoma; 8 cases terminated fatally for the mothers, and 3 children were born alive. The causes of death were atonic after-hemorrhages, infections, after-hemorrhages in the puerperium, and embolism of the pulmonary arteries.

3. *Complication with carcinoma.*

Carcinoma came under observation during *pregnancy* in the earlier months in 5 cases; in one, abortion occurred spontaneously, and was followed by scraping and the application of the actual cautery; in 4 cases, supra-vaginal amputation was performed during pregnancy, once in a patient with lithopedion, 3 times abortion occurred (in one of these cases not until four weeks after the operation). All the mothers recovered from the operation.

During *labor*, complication with carcinoma was observed 7 times. Of the 7 mothers, 6 died, 4 of them of the direct consequences of the labor, 2 of the later sequels and the rapid growth of the tumor in the puerperium. In 2 cases the delivery was spontaneous, in 2 it was effected by version, in 1 by the forceps after scraping of the cervix. In 2 cases the Cesarean section was performed, both ending fatally. One of these cases I intend to report in detail. Three children were born living: 1 spontaneously, 1 by forceps, 1 by the Cesarean operation (2 of them died soon).

After a critical consideration of this material, the author draws the conclusion that energetic operative interference during pregnancy or the induction of abortion or premature labor furnish far better results than waiting for the spontaneous onset of labor.

In the discussion following the reading of the paper, it was pointed out by Loehlein and Veit that the bad results of the expectant treatment had been rendered particularly so, in the cases of myoma, by specially unfavorable complications, and that for this reason operative treatment during pregnancy cannot be laid down as an inflexible rule.

In this connection I shall relate the operative history of one of the above-mentioned cases which deserves to be recorded on account of its rarity, for, to the best of my knowledge, only three similar operations have been hitherto performed. This was a

pregnancy with cervical carcinoma which came under observation near term. The cervix was irregularly tumefied by the carcinoma to about the thickness of an arm, and was sharply demarcated towards the connective tissue, so that a radical operation appeared still feasible. The carcinomatous infiltration extended up to the internal os; hence total extirpation was the only operation to be considered. It was intended to wait until the end of pregnancy; but the amniotic fluid mixed with meconium escaped unexpectedly. The temperature rose and the fetal pulse became irregular. Therefore, in order to save the child if possible, the Cesarean operation had to be performed. The child was rapidly removed, but was already profoundly asphyxiated and could not be revived. The only possibility of removing the carcinoma seemed to be offered by the total extirpation of the uterus according to Freund's method, which was therefore performed. The entire cervix was easily freed without material loss of blood, so that at last it was only attached round about the vaginal vault. This having been divided, the vagina was readily closed from above. On the whole, the operation was easy of performance, and the loss of blood was not great. Unfortunately the patient died on the second day of acute sepsis, the infectiousness of which two assistants had occasion to verify on themselves in the shape of protracted poisoning of minor injuries received during the operation.

In the field of *Gynecology*, I mention as of the greatest importance two interesting compilations from our clinic, on the operative treatment of malignant neoplasms of the ovary, and of the uterus. In regard to the former subject—the *operative removal of malignant ovarian tumors*—E. Cohn, assistant at the clinic, has collated 100 cases of malignant ovarian tumors operated upon by Prof. Schroeder, especially with a view to the determination of the prognosis. In the course of nine years, among 600 ovariectomies there were about 100 of these operations, so that there is about one malignant tumor to every six ovarian tumors. Of these operations, 86 could be completed, 14 remained exploratory incisions. Owing to the frequency of relapses and their tendency to carcinomatous degeneration, papillary cysts are, from a clinical standpoint, included among the malignant tumors. Of those operated upon, there died altogether 19 (3 after the exploratory incision). There were permanently cured (taking one year of perfect health as the lower limit) 19 or 19.5 per cent of the completed operations. As far as could be ascertained, 17.3 per cent of these died of relapses. Of those who died directly of the consequences of the operation, two cases are particularly notable by

the fact that within three weeks after the operation so rapid a carcinomatous degeneration of the entire peritoneum had occurred that it was transformed into cancerous masses nearly an inch in thickness. With reference to relapses, sarcomas are most favorable, and papillary cysts most unfavorable. In one case the relapse after carcinoma did not occur until seven years later; the patient died a year and a half after the second exploratory incision. In another case a relapse occurred after three years, and by a second operation eight additional months of health were procured. Probably in this case there was a renewed later affection, independent of the first. In view of the absolutely unfavorable prognosis of this disease, the result of operative treatment does not appear bad, even if only temporary success is obtained. On the other hand, owing to the very great frequency of malignant degeneration (1 : 6), the earliest possible operative removal of ovarian tumors seems to be positively indicated.

In the discussion following the reading of the paper, P. Ruge, basing on his experience, declared in favor of operating even if the malignant character of the tumor was diagnostically certain. Martin had observed among 191 ovariectomies only 12 malignant tumors; he ascribes this fact mainly to the circumstance that he has for a long time been in the habit of removing ovarian tumors on principle, even if small. In more advanced cases he cautions against beginning the operation, for it cannot be stopped at pleasure. Schroeder pointed out that in most cases the malignancy was not recognized until after the operation; but that the operation should always be attempted even if the cases had been diagnosticated as such, with a view to obtain temporary improvement and because of the utterly hopeless condition of the patients otherwise.

In connection with a paper by Duevelius, assistant to Dr. Martin, on the vaginal extirpation of the uterus, I have collated the *results of the operative treatment of cervical carcinoma* at our clinic. Duevelius reported, in the first place, that of the last 59 total vaginal extirpations by Martin only 5 had died; this figure was increased by Martin himself by 21 additional cases with 2 deaths, so that he had lost altogether, of his last 80 vaginal hysterectomies, only 7 or 8.5 per cent. Basing on these figures and other statistics from our clinic published by myself two years ago, Duevelius drew the conclusion that vaginal hysterectomy is the less dangerous operation, and preferable under all circumstances as being more certain. This view again was based on the figures given by me at the time stated. As appears from the publications

of the last few years, the view seems to be gaining ground in Germany that in cases of cervical carcinoma total extirpation of the uterus is the only admissible operation—a view which has always been opposed by our clinic. I have therefore again collated all the operations since the year 1878, and, largely with the aid of the authorities and the police department, I have gathered authentic information as to the further fate of all persons operated upon by us, because this important question of principle can only be decided by the *permanent* results. With the exception of 6 out of 145 operated upon, I have finally succeeded, so that I am enabled to utilize nearly the entire material to the beginning of the present year for the settlement of this question. In the first place, the permanent result alone can decide whether in a certain number of cases, or in some forms of carcinoma, partial extirpation of the uterus suffices, and in what others perhaps it does not, that is, total extirpation must be performed. The anatomical view which underlies this standpoint is the one which has been repeatedly defended in the publications issued from this clinic and in the paper by Ruge and Veit “On Carcinoma of the Uterus;” namely, that anatomically and in the earlier stages three forms are to be distinguished: *first*, epithelioma of the cervix, the best known and most frequent form, with cauliflower excrescences, ready degeneration of the surface, and profuse secretion and hemorrhages. This form of carcinoma extends early to the vagina, but comparatively late to the uterus and its surroundings, hence remains local for a very long time. This is the form to which partial extirpation is pre-eminently adapted, because the carcinoma remains relatively long confined to the lowest part of the cervix. A *second* form is adenoma of the cervical mucosa which tends less to profuse newformation than to ulceration, easily spreads to the uterus along the mucous membrane, and leaves the vaginal cervix long intact. This form of carcinoma is slow in giving rise to symptoms, often not until the entire cervical tissue is destroyed. A *third* form of carcinoma begins as a circumscribed cancerous infiltration of the tissue of the cervix which is irregularly tumefied, and finally it ulcerates through towards the outside or inside of the cervix. The latter two forms, as a rule, can be operated on with any prospect of permanent success only by the total extirpation, because they readily spread over the entire uterus and because their limits cannot be at once determined. It is true, owing to their hidden seat, it is comparatively rare for them to come under observation and diagnosis early enough to render a radical operation possible; but it is not correct that they can never be recognized

early enough, as Jackson, of Chicago, has recently asserted. We have performed our carcinoma operations with reference to these anatomical views—epithelioma of the cervix mainly by the partial (usually supra-vaginal) extirpation; carcinoma of the cervical mucosa and of the cervical tissue by vaginal hysterectomy. Since the justification of this anatomical view, and the therapeutical manipulations based upon it, can only be gleaned from the results, I have below tabulated the permanent results of both operations up to the end of 1884, excluding the deaths and the cases which cannot be traced. Unfortunately, I have not succeeded of late in getting information about some of the first patients treated by the total vaginal extirpation for a longer period than two years after the operation, so that I cannot offer larger numbers of cases operated upon more than three years since. Of the 145 cases under consideration, 20 died (10 partial, 10 total extirpations). As the fate of 7 remains unknown, 117 cases can be utilized in the computation.

OPERATIONS WITHIN		CASES.	RELAPSES.	RECOVERIES.
1 year ago..	Partial extirpation..	88	43	45 or 51 per cent.
	Total “	29	15	14 or 48 “
	Total.	117	58	59 or 50 “
2 years ago.	Partial extirpation..	68	37	31 or 46 per cent.
	Total “	25	19	6 or 24 “
	Total.	93	56	37 or 40.2 “
3 years ago.	Partial extirpation..	49	26	23 or 47 per cent.
	Total “	14	12	2 or 14.5 “
	Total.	63	38	25 or 40 “
4 years ago.	Partial extirpation..	29	18	11 or 38 per cent.
5 years ago.	Partial extirpation..	17	11	6 or 35 per cent.

Since the fate remains in doubt in but 6 (one died six months after the operation of an intercurrent disease) out of 125 operated upon, these figures are pretty definitive. They show that the percentage of cures sinks from 51 after the first year to 40 after the third year—a circumstance which is to be placed chiefly to the account of the total extirpation, because the percentage of the latter sinks in the same period from 48 to 14.5, while the proportion in the partial extirpation remains nearly stationary at

46 to 51. Not until four and five years after the operation does this figure sink to 35 per cent, and only in a minor degree because relapses occurred more frequently in the later years, but rather because in these years the indications for the operation were extended by us. For a careful examination of the cases shows that in only four instances after the supra-vaginal amputation did local relapses occur later than one year subsequent to the operation; in these cases, too, the local condition appeared rather suspicious even before the end of the year, so that the conclusion is admissible that those patients whose local condition offers nothing of a doubtful character after the lapse of a year may be considered definitely cured. All relapses which occurred after the end of one year (altogether five) were *quite independent of the uterus*, as was shown in several cases by the autopsy. Of those treated by the total extirpation, one-half of the cases (seven out of fourteen) showed relapses in the second year. Nevertheless, after two years, out of 25 operated upon, 6, or 24 per cent, were still healthy, thus *justifying the total extirpation under all circumstances*; for the patients treated in that way could not have been operated upon in any other manner.

At all events, from the figures obtained it appears that partial extirpation in cases of epithelioma of the cervix is sufficient to effect a radical cure; and, on the other hand, that *vaginal hysterectomy has become an indispensable auxiliary*, permitting the operative treatment of carcinoma of the cervix after other methods are no longer sufficient.

In order to place in the right light the greater danger of the partial as compared with the total extirpation of the uterus, which Duevelius had particularly emphasized, I shall use for my statistics the operations performed until the end of 1885. Between October 1st, 1878, and January 1st, 1886, there were performed at our clinic 118 partial extirpations of the uterus (22 of them by myself, with one death), altogether with 10 deaths, or 8.5 per cent; the last 56 with 3 deaths. During the same time, 48 total extirpations were performed (14 by myself, with 2 deaths), altogether with 12 deaths, or 25 per cent; the last 20 with 4 deaths.

These figures likewise show that under equal conditions the total extirpation is always the graver operation, and therefore not to be undertaken unless necessity compels.

But the whole anatomical view of the question respecting carcinoma of the uterus, as founded in the paper by Ruge and Veit some years ago, has found a novel and very valuable support

by this clinical experience. On the other hand it shows, besides, that if cervical carcinoma is operated upon at all early, it offers a prognosis as regards radical cure which is as good as that of carcinoma in general. The settlement of this question appears of special importance with reference to the doctrine which is particularly prevalent in America, namely, to abstain from any operative treatment of uterine carcinoma.

BERLIN, February, 1886.

TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF NEW YORK.

REPORTED BY THE SECRETARY, DR. H. C. COE.

Stated Meeting, February 2d, 1886.

DR. H. T. HANKS, *Vice-President, in the Chair.*

A SPECIMEN OF SUPPOSED FLESHY MOLE.

DR. GILLETTE exhibited a round, fleshy mass, the size of an orange, that had been expelled from the uterus of a lady whom he had attended in consultation. The history of the case was briefly stated. The patient, who lived in Elizabeth, N. J., was a multipara who had borne three children. She became pregnant for the fourth time last spring and aborted in August. Her attendant was positive that the entire placenta had been expelled with the fetus. Instead of convalescing in the usual manner, she suffered from a constant oozing of blood that proved a serious drain upon her vital powers. Her physician, thinking that a portion of the placenta might possibly be retained within the uterine cavity, dilated the *os internum* with sponge-tents and used the curette thoroughly, but removed nothing. The uterus appeared to be of normal depth. Dr. Gillette was called in consultation, and found the patient in fair condition in spite of the constant loss of blood. As the *os* had been dilated previous to his arrival, he introduced a curette into the cavity to the depth of four and one-half inches, and scraped the interior vigorously, but obtained nothing save a small quantity of granular *débris*. He naturally supposed that the condition was one of subinvolution with fungous endometritis. During the night following the operation, the patient had expulsive pains and finally discharged the body which he had presented. When examined immediately after its expulsion, the remains of an amniotic sac were visible at the lower part of the mass. If the curette had entered this cavity, there would have been some clue to the true condition. On section, the body appeared to be of a soft, spongy

character, which to the speaker suggested hypertrophied placental tissue. The specimen was of interest not only from its rarity, but because it suggested the question, "Was it the remains of a second conception, and consequently was the case one of superfetation?" Considering the fact that the placenta had been carefully examined by a competent observer and had been found intact, Dr. Gillette said that he was inclined to give an affirmative answer to the question. He acknowledged that he had not had the least suspicion of the true condition of affairs, and had positively committed himself to a wrong diagnosis.

[The specimen was referred to Dr. Coe for microscopical examination. He reported as follows: "Numerous sections were examined and compared, with a view to discovering remains of chorionic villi, the presence of which, according to all authorities, alone establishes the positive diagnosis of fleshy mole. A careful search failed to reveal any appearances that could suggest such villi. The sections presented uniformly a loose myxomatous tissue, disposed in the form of trabeculæ, which were filled with decolorized blood-corpuscles inclosed in networks of fibrin, and fatty degenerated and pigmented cells of an epithelioid type. Scattered throughout the sections were blood-clots that had apparently become partially organized, and also collections of pigment. In some places there were bundles of connective tissue, in others limited areas showing hyaline degeneration. There was no trace of newly-formed vessels.

Considering the microscopical appearances of the specimen, the diagnosis lies between fibro-myxoma, angioma, retained placenta, and so-called fleshy mole (*Fleischmole*, *mola carnososa*).

The first may be eliminated from the small amount of fibrous tissue and the presence of numerous epithelioid cells; simple retained placenta is excluded from the entire absence of chorionic villi, while organized retained placenta, or fleshy mole, is rendered somewhat doubtful for the same reason. However, the fact that the tissue is largely myxomatous and that the fatty-degenerated cells are those peculiar to the placenta, the presence of organized blood-clots and of spots of hyaline degeneration—all conspire to render this diagnosis a probable one. Angioma of the uterus has been reported by Klob ("Path. Anat. d. weibl. Geschlechtsorgane"), who describes under the name of "cavernous ectasia" a spongy mass, two centimetres in diameter, which he found adherent to the posterior wall of the uterine cavity. Its microscopical appearances were quite similar to those of the present specimen. He explains the origin of the growth as consequent upon the non-involution, and subsequent telangiectatic transformation, of the wall at the point of placental attachment. Savage ("Female Pelv. Organs") refers to a similar angiomatous growth.

It will be seen that the character of the mass is by no means clear. Histologically, it may be called a myxo-angioma; that it

is the remains of a placenta that has undergone carnification cannot be positively affirmed, because of the complete absence of chorionic villi which have nearly always been found in such cases.]

DR. BYRNE asked how such a large mass had been overlooked during the operation of curetting, and also how there could have existed such a discrepancy between the two measurements of the uterine cavity.

DR. GILLETTE said that the attending physician in introducing his curette had doubtless encountered the lower part of the mole directly, and had thus failed to discover the true depth of the cavity, while he himself, by keeping the instrument close to the uterine wall, had pushed it past the mass, and thus reached the fundus. If the mole represented the product of a second conception, what had become of the corresponding fetus?

DR. HANKS suggested that the original condition may have been one of twin-pregnancy with separate placentæ, one fetus having died and become absorbed, while its placenta remained and became hypertrophied, so as to form a mole.

DR. GILLETTE said that this theory had occurred to him as being a very plausible one. Although his obstetrical experience had been large, this was the first case of the kind that he had ever encountered, so that he did not feel competent to explain it.

DR. HANKS thought that the speaker's frank acknowledgment of his failure to discover the foreign body within the uterus ought to be an encouragement to those who with far less experience had been so unfortunate as to overlook the presence of early pregnancy, and to pass instruments into the cavity.

A PUERPERAL FEVER MICROBE AND ITS HABITAT IN NEW YORK.

DR. EMIL NOEGGERATH read a paper on this subject [which will be published in the May number of this JOURNAL], a brief abstract of which is as follows:

The reader introduced his subject by describing at length a case of puerperal fever of a remittent type, which occurred in a patient whose confinement was effected under the most stringent antiseptic precautions. Her surroundings were considered to be favorable in every respect. There was a dressing-closet communicating with the lying-in chamber; in order to eliminate every source of infection, the reader plugged up all the holes in the stationary basin.

A few days after her confinement (which was perfectly normal) the patient had a chill, and developed a high temperature, which was controlled by appropriate treatment. There was a foul discharge from the uterus, which ceased after the administration of injections. From the symptoms, the reader inferred that the condition in this case was *not septicemia*, but *sapremia*. The question was, What was its origin? On examining microscopically the lochial discharge and a decomposed clot that had been expelled from the uterine cavity, he found a bacterium with certain very marked characteristics. This appeared as two ob-

long bodies separated by a constriction. On removing the rubber corks from the overflow-pipe of the basin, and examining the scrapings from their under surfaces, the identical microbes were discovered, a direct relation being thus established between the emanations from the pipes and the sapremic condition of the patient. Now, as the basin had been sealed up before the labor began, and no discharges from the patient, or, in fact, fluids of any kind had been poured into it, the inference was that the bacteria must have been present in the air contained within the pipes long before they entered the genital tract of the puerperal woman.

The reader did not pretend to be able to trace the sequence, but he thought that the practical deduction was sufficiently evident, viz. : that we ought never to select as a lying-in room any chamber that communicated with a bath-room or dressing-closet, because although the plumbing might be perfect from the standpoint of the sanitary engineer, this was no security against the presence of dangerous germs.

After the reading of the paper, a number of cultures were shown, both in test-tubes and on potato. The reader called attention to the fact that the saprophytic character of the microbe was shown by the highly offensive odor to which it gave rise. Microscopical preparations of bacteria from the water-pipes, lochial secretions, and decomposed blood-clot were then demonstrated.

DR. COE mentioned an obscure case of puerperal fever in regard to which he had been consulted the same evening. The symptoms were somewhat similar to those described by the reader, and the patient's environment was much the same. Every precaution had been taken in the conduct of the case, and it was difficult to assume the presence of septic infection. He thought that Dr. Noeggerath's discovery might throw light upon many of those cases of post-partum elevation of temperature in which the element of sepsis could be excluded.

DR. HANKS recalled a case similar to the one reported by the reader of the paper, in which thorough antiseptic precautions had been observed, and yet he had had trouble. It was rather disheartening to think that, after all the care that was employed in one's confinement cases, such unseen and dangerous influences might be at work to defeat his plans.

DR. NOEGGERATH compared the bacterium of puerperal, or sapremic fever to the specific microbe of diphtheria; they were alike in this, that they remained at the infected spot, and did not spread throughout the system. In this respect bacteria differed from cocci, since the latter were prone to form metastasis. Was there a septic, as well as a sapremic, bacterium of puerperal fever? This question he was not yet prepared to answer. A syringe of gelatin containing the sapremic microbe could be injected into the peritoneal cavity of a rabbit without causing any symptoms whatever, proving that there was no septic element in this form of germ. There might be serious symptoms with a considerable elevation of temperature, but the patients would recover as long as the condition remained one of sapremia.

DR. HANKS asked if in the case cited the albumin disappeared immediately after delivery. The reader replied that it was found in the urine for two or three weeks after confinement. Doléris had shown that the transient form of puerperal albuminuria was due to the presence of a certain parasite, and that it could be induced artificially by injecting this parasite into the blood.

DR. BYRNE asked if the peculiar foul odor given off by the cultures was characteristic of this particular form of bacterium.

DR. NOEGGERATH replied that the odor was characteristic of the entire genus *Proteus*, to which this microbe belonged. The odor was either exhaled from the bodies of the bacteria, or arose from the gases given off during the decomposition of the albumin on which the germs subsisted and which they had the property of decomposing. True septic bacteria were usually odorless.

DR. BYRNE asked the reader if he had performed any experiments with a view to determining the action of germicides upon the puerperal-fever microbe.

DR. NOEGGERATH replied in the negative. From the great vitality of the germs, he inferred that they must be very resistant to the ordinary antiseptic solutions.

DR. STEURER (present by invitation), in reply to a question from Dr. Noeggerath, stated that when working in Recklinghausen's laboratory he had had an opportunity to witness a series of experiments performed by a Russian physician (Dr. Radjewsky) with a view to producing artificial diphtheria in rabbits. If tracheotomy was performed upon one of these animals and a quantity of aqua ammoniæ was injected into the trachea, a simple catarrhal tracheitis resulted, but if an infusion containing micrococci (those which occur in colonies) was subsequently injected beneath the skin in a distant part of the body, an exudation appeared in the trachea, which presented under the microscope exactly the same appearances as true diphtheritic membrane. The speaker added that he had had opportunities of observing an epidemic of diphtheria in Bellevue Hospital, and subsequently in Strasburg, and that he always found colonies of micrococci in the tissues in fatal cases. In one instance of puerperal fever attended with obstinate vomiting, the cocci were found in the submucosa of the stomach. They were always found in the capillaries, when sections of the kidneys were treated with glycerin and acetic acid. Diphtheritic exudations were produced in rabbits by the injection of fluid containing micrococci that had been removed from the bodies of patients that had died from puerperal fever.

DR. NOEGGERATH had not heard of the experiments described by Dr. Steurer, and questioned if they had ever been published, except in the Russian language. According to Löfler, it was the bacilli that were the specific germs of diphtheria, and *not* the cocci.

DR. STEURER explained that the Russian physician's experiments, if they had been published at all, were probably printed in his own language, and had thus escaped general notice.

DR. NOEGGERATH said that he could not admit that true diphtheria had ever been produced in rabbits. He would call it "pseudo-diphtheria."

DR. STEURER insisted that the minute anatomy of the artificially-produced membrane was the same as that of a diphtheritic exudation.

DR. POLK thought that if both the clinical and microscopical

features were alike in true and artificial diphtheria, it was not easy to tell the difference.

Stated Meeting, February 16th, 1886.

The President, DR. PAUL F. MUNDÉ, in the Chair.

ANGIOMATA REMOVED FROM AN INFANT SIX MONTHS OLD.

DR. JACOBI showed two soft masses as large as walnuts, both of which he had removed from the same patient. One of these was situated just below the right clavicle, the other on the back, a little to the right of the vertebral column. The integument covering the tumors presented a normal appearance, except that it contained several dilated veins; it was adherent to the subclavicular growth. The speaker remarked that one of the tumors was clearly an angioma, while it was possible that the other consisted largely of fibrous and adipose tissue; he had not yet examined them microscopically. Such "erectile" growths in infants ought always to be removed, because they might become sarcomatous, even after the lapse of several years. The speaker recalled a case in which an angioma had remained benign for thirty years and then became the seat of sarcomatous degeneration. The specimens shown were situated in the midst of adipose tissue, and had caused a certain amount of thickening, or infiltration, in the surrounding fat, so that it was necessary to remove a portion of the latter at the same time. They were not capsulated, and showed a gradual transition into the surrounding normal tissue. They contained a large amount of dense connective tissue.

DR. B. M. EMMET asked if there was anything in the appearance of these tumors before their removal that could lead the speaker to suspect that they might be something more than simple angiomata.

DR. JACOBI replied that the appearance of the anterior tumor was entirely characteristic, while that on the back was not so circumscribed. Congenital lipomata were rare and were apt to be quite diffuse. They did not possess the nodular feel of acquired lipomata. It could be affirmed of the specimens while *in situ* that they contained a good deal of interstitial tissue.

THE RECTUM IN THE YOUNG.

DR. JACOBI read a paper with this title, of which the following is a brief synopsis: The hollow of the sacrum being less curved in the child than in the adult, the rectum is shorter, straighter, and more uniform in shape, hence liquid or semisolid feces, after passing the sigmoid flexure in the infant, are rapidly evacuated. In the embryo the intestine is formed in sections, the excess occurring in the descending colon and sigmoid flexure; the latter may have a length of even thirty cm., whereas in the adult it seldom exceeds twenty cm. Because of the small size of the infantile pelvis the colon is thrown into folds, so that instead of one, there may be several flexures. Clinically, the presence of the redundant intestine is of great interest, from the fact that it may give rise to dif-

difficulty in determining the true position of the sigmoid flexure, and may prevent the passage of the intestinal contents, leading to the erroneous diagnosis of complete obstruction. The inflammatory conditions of the rectum, catarrhal, diphtheritic, etc., are of the same character as those in the adult. A simple proctitis may result from the irritation caused by a foreign body, or may be due to syphilis or tuberculosis. Periproctitis occurs rarely after typhoid and pyemia. There is no instance on record of cancer of the rectum in an infant. Complete fistulæ are rare in children and are difficult to cure; the incomplete variety are much more common. The actual cautery is the only reliable agent to employ in treating them; it should be applied to the entire canal from without inwards.

Dysentery.—This may be sporadic, endemic, or epidemic. The catarrhal and diphtheritic variety are interchangeable. As a result of the inflammatory process, the mucous membrane often becomes necrotic. Destruction of the glands, and subsequent cicatrization of the mucosa, and contraction of the bowel sometimes occurs. The treatment is mostly local. Pain in the hypogastrium may be relieved by cold or warm applications. Opium is of great value, and is tolerated in full doses; it should be given by the mouth rather than in enemata. The best astringents are tannin and gallic acid, lead, nitrate of silver, and iron—all to be given in small doses, but at frequent intervals. Bismuth is a valuable remedy, which, in addition to its antifermentative action, serves to protect the mucous membrane. In case of ulceration, local enemata should be used; injections of tepid salt-solutions, flax-seed tea, etc., should first be given, in order to empty out the bowel, after which astringent solutions are to be introduced. A one-per-cent solution of alum or tannin is generally useful. Weak solutions of nitrate of silver (one or two per cent) may be used in sub-acute cases, but should be neutralized at once with salt-solution.

Rectal Polypi.—These vary in size from a pea to a hazel-nut, or larger. They may be single or multiple, sessile or pedunculated, their usual site being just above the internal sphincter. They were first described by Stoltz in 1831; Bokay found them only in one out of two thousand six hundred patients, but Dr. Jacobi usually meets with three or four cases annually, and has treated about one hundred cases, the ages of the patients ranging mostly from two to five years. Among the symptoms noted were irregular defecation (mucus or blood sometimes being discharged), with accompanying tenesmus, especially when the polypus was near the internal sphincter or between the two sphincters. A red mass might protrude from the anus, and repeated hemorrhages were not uncommon, the last symptom being almost pathognomonic of polypus. The growth is readily felt on introducing the index finger into the rectum, which can usually be accomplished with-

out difficulty. The treatment is simple, since the pedicle offers but a slight resistance, and may be tied and cut, or separated by torsion or evulsion, the loss of blood being insignificant. Sessile polypi often give rise to no symptoms, and may be caused to shrink up and disappear by using astringent injections.

Prolapse of the Anus or Rectum.—These are only different degrees of the same pathological condition. Weakness of the sphincter may be either congenital or acquired; the latter may result from overstraining as the result of an inflammatory process in the bladder or bowel, fistulæ, abscesses, polypi, etc. The mildest form of prolapsus consists in a simple eversion of the anus, between which and the worst variety, in which three or four inches of the bowel protrude and are incarcerated, there are many intermediate forms. The indications always are to reduce the prolapsed part, and to retain it in the proper position. For the latter purpose a T-bandage, or tamponing, with fixation of the nates, has been recommended; plugs of hard rubber or lead are used by others. The cause of the prolapsus, whatever it is, ought to be eliminated. Polypi or vesical calculi should be removed, constipation and chronic diarrhea should be cured. The child ought not to be allowed to defecate sitting upon a low stool, and each passage should be assisted by a large enema.

The swollen mucous membrane must be cleansed by frequent injections, and astringents be applied to it, a one-per-cent solution of nitrate of silver being recommended; the latter must be neutralized at once with salt-solution, as otherwise it may produce soreness of the rectum, and thus lead to tenesmus, which will increase the existing prolapsus. Excessive hyperemia may be relieved by applications of ice and a four-per-cent solution of cocaine. In exaggerated cases, the solid stick of nitrate of silver might be applied, or, better still, the actual cautery, which may be applied longitudinally, transversely, or at several different points. If the sphincter is weak, an induced current, passed through the perineum, is beneficial, sulphate of strychnine being administered hypodermically in daily doses varying from one-sixtieth to one-twenty-fourth gr. Instead of the latter, an ointment composed of one part of extract of *nux vomica* and from twelve to twenty parts of fat or vaseline, may be introduced into the rectum.

Fissure of the Anus.—This is generally regarded as a rare affection in infants, but it is more frequent than is usually supposed. Kjellberg is the only writer who claimed that it is frequent during the first year of life. It generally appears as a narrow, reddish or grayish slit, observed on separating the margins of the anus, seldom extending beyond the sphincter, while the surrounding parts present a normal appearance. The fissure is extremely sensitive to the touch, and an examination frequently causes a contraction of the sphincter that is partly voluntary and partly spasmodic. A milder form of fissure may result from the rha-

gades of congenital syphilis, or from local skin eruptions. The more severe varieties are due to constipation or the passage of foreign bodies; the former condition may result from a congenital contraction of the sphincter, leading to an accumulation of feces in the ampulla, just above the point of constriction. As a rule, the fissure is situated at the posterior edge of the anus in the median line. The pain during defecation is intense and may last for several hours afterwards, so that the little patient's face becomes haggard and distorted; abdominal pain, tympanites, and other intestinal troubles may co-exist with cerebral irritation and sleeplessness—all of which symptoms may often disappear after a single dilatation of the sphincter. Vesical spasm and dysuria are not unfrequently due, not to the presence of a calculus, but to anal fissure.

Incontinence may occur instead of dysuria, not the paralytic form, but that in which small quantities of urine are passed at a time with tenesmus. In many children the symptoms may be more general; they are restless and fretful, lose their appetite, their sleep is disturbed, and they scream suddenly without any apparent cause. Their stools are frequent, but of the average daily amount and appearance. A polypus and fissure may rarely co-exist in the same patient after the first year of life; there will then be frequent discharges of blood, as well as excruciating pain in the region of the anus. [The reader described an exaggerated case, that had existed for years, in which the patient was perfectly cured in about two minutes by stretching the sphincter, and tearing off a polypus.] The proper treatment of fissure consists in forcible and instantaneous dilatation of the sphincter, with or without anesthesia, by the introduction of the two index-fingers. The sphincter should be stretched until its fibres are distinctly felt to give way. Boyer advises deep incisions through the sphincter, but these may be followed by hemorrhage, ulceration, and septic absorption.

DR. PERRY asked the reader if he had ever met with cases in which there was a fissure co-existing with relaxation of the sphincter. Would he practise dilatation under these circumstances?

DR. JACOBI replied that he had observed this relaxation of the sphincter as the result of a lengthy catarrhal process. Dilatation was of no use here; cauterization was indicated instead.

DR. PERRY said that he had met with more cases of fistula with relaxed sphincter than with normally contracted sphincter. He had found the treatment very difficult; it had consisted, in his practice, simply in maintaining the cleanliness of the parts, and exposing them to the air.

DR. B. EMMET had met with a case in which the polypus was situated high up in the rectum, its pedicle being long and slender. The latter was transfixed and tied, and the tumor removed without loss of blood.

DR. MURRAY asked why the method of treating fistulæ by inci-

sion and cauterization with nitrate of silver was not applicable to children. He said that he had operated successfully upon a child at his clinic, no anesthetic being used.

DR. JACOB said that he would reply to this question by asking another. Was it not better treatment to simply dilate the sphincter, since it required less time, and no preparation, or anesthetic?

DR. MURRAY explained that when he performed the operation in question, he had not had experience in stretching the sphincter.

DR. HARRISON asked if permanent incontinence ever followed this procedure in children.

DR. JACOB said that, as a rule, there was only a temporary loss of power, which was soon regained.

DR. HARRISON explained that he had asked the question, because in the case of a woman, whose sphincter he had stretched for the relief of a fissure, perfect control had never been recovered, even after the lapse of several years. He had frequently noted the association of fissures and polypi in the adult.

DR. MURRAY asked the reader if dysuria had been a common symptom in his cases. An affirmative reply was given.

DR. LEE remarked that he had had considerable experience with prolapse of the rectum in infants, especially in hospital practice, and had always found that in treating them it was important to insist upon prolonged rest in bed, the patient being made to defecate in the recumbent posture. No variety of bandage was of permanent benefit. Rest in bed during an interval of from four to six weeks must be maintained, combined with the use of enemata of cold water and astringent solutions; if the feces were hard and lumpy, they should be softened with injections of sweet oil. In cases that resisted such treatment, the speaker said that he was accustomed to effect a contraction of the parts by removing strips of the skin and mucous membrane covering the sphincter, and suturing the opposite edges of the raw surfaces. He added that he had had as many as seven or eight cases of prolapse under treatment simultaneously in a single ward at the Infant Asylum. He had met with a few cases of fissure in children which he had treated by stretching the sphincter, always giving the patient a few whiffs of ether beforehand; if the fissure extended high up the rectum he had also practised the method of incision. He had observed incontinence in the aged after dilatation, but never in the young.

DR. BYRNE said that he had observed a few cases of fissure and polypus of the rectum, but could add nothing to what had already been said. All of his cases of fissure had been accompanied by relaxed sphincter, so that dilatation was not indicated; he had made a free incision in every instance with good result. He desired to add with reference to the therapeutics of dysentery that the doses of acetate of lead usually administered were too small; he had given to an infant a grain every two or three hours without noticing any unpleasant effects. He had also seen a few obstinate cases of prolapsus recti that could not be cured by the ordinary means, in which cauterization longitudinally (and in one instance transversely also) resulted in perfect cures.

THE PRESIDENT closed the discussion with the remark that it was probably the general wish of the Fellows that the Society should be placed on record as upholding the idea that in patients below middle life, permanent incontinence after dilatation of the sphincter ani was rare.

TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF PHILADELPHIA.

Stated Meeting, Thursday, January 7th, 1886.

The President, B. F. BAER, M.D., in the Chair.

DR. HOWARD A. KELLY exhibited recent

SPECIMENS OF PYO-SALPINX, HYDRO-SALPINX, AND PAPILOMA OF THE
HILUM WITH GELATINOID THICKENING OF THE FALLOPIAN TUBE.

The histories of the cases will be given at some future time.

DR. GOODELL stated that while he recognized the necessity for operation in pyo-salpinx he does not think it necessary in hydro-salpinx. He now refuses to operate in some cases of cystic disease in which one ovary may contain a cyst as large as an orange, or in which the tube may be distended to the size of a sausage, because the sufferings of the patient and her general symptoms are not severe enough to warrant the operation. In many of these cases the symptoms may all be removed by the rest treatment, and it should first be tried. Small cysts are frequently found in ovaries, especially when uterine fibroids are present, but they do not necessarily develop into large ones. In many cases the cause of pelvic symptoms can be diagnosticated by exclusion only, and even when small cysts or dilated tubes can be felt, treatment should be first tried, and will be sometimes successful without operation. He thinks the error of the present time is in the direction of too much surgical interference.

DR. MONTGOMERY remarked that there was a class of cases suffering from small ovarian cysts or distended tubes, in which the rest treatment or any other loss of time could not be thought of, and in which operation seemed imperative. This was on account of the pecuniary condition of the patient, who may be self-supporting, or who may be the only support of others, the suffering and exhaustion of the disease incapacitate them from work; relief is imperatively demanded, and he considered operation justified.

DR. GOODELL recognized this element of poverty, and has operated for this reason in some instances. He was led to make his remarks by a case now under his care. A lady was sent to him for operation after an opinion had been given by an experienced gynecologist of another city that relief could be obtained by operation only. On one side the ovary was enlarged, and the other ovary was prolapsed and tender. Rest treatment had wholly cured her. In these remarks he casts no reflection on any of Dr. Kelly's cases. Pus was present in all of them, and operation seemed to be demanded in all.

DR. BAER has been strongly impressed lately with the views expressed this evening by Dr. Goodell. Dr. Baer thought all conservative means should be tried before operating.

DR. KELLY replied that he had presented the specimens purely from an anatomical and pathological standpoint, and that he would

give the histories at some future time, when the results of operation are well demonstrated. In each of them operation was imperatively demanded to save life. It is in such cases as those presented this evening that the great work in the future must largely lie. If the details of ovariectomy have been perfected, in such cases as these the chapter is only being opened. They are not examples of Battey's operation or Tait's operation, but stand as representatives of classes of disease well defined, with equally well-defined indications for treatment. The extraordinary difficulty of digging such masses as these out of the pelvis, makes operative interference very fatal, although it is the only resort.

DR. WM. GOODELL read a paper on

"A YEAR'S WORK IN LAPAROTOMY,"

which will be published in full in the *Medical News*.

During the past year he has had forty-four cases of laparotomy, with four deaths, as follows:

	Cases.	Death.	Recovery.
Ovariectomy,	28	2	26
Oöphorectomy,	9	1	8
Hysterectomy,	2	1	1
Exploratory incision,	4	—	4
Pelvic abscess,	1	—	1
Totals,	44	4	40

Of these forty-four cases, twenty-five had been operated on at his private hospital, with two deaths; twelve were operated on at the Hospital of the University of Pennsylvania, with one death, and seven were operated on at the homes of the patients, with one death. Of these four deaths, one only was due to septicemia, and that, a case of oöphorectomy, occurred in a private room at the Hospital of the University. It was not, however, due to hospitalism, but the adverse complications of the case. The ovary and oviduct were filled with pus, and so matted by inflammation to adjacent structures that only a portion of them could be removed, and that in fragments. The pus unavoidably escaped into the peritoneal cavity, which was carefully cleaned, and a drainage-tube put in, yet a fatal inflammation set in. Another death was due to shock after removal of the womb containing a fibroid tumor with extensive adhesions, and weighing seventeen pounds. The two deaths after ovariectomy were not due to septicemia, and are somewhat mysterious. One case was operated on at the patient's home in Bedford, Pa., and Dr. Goodell did not see her again. The cyst was parovarian, weighing forty-three pounds, was without an adhesion and easily removed. The stitches in due time were removed, the bowels were opened, and everything did well for twelve days. Then obstinate vomiting set in, and the lady died on the seventeenth day. Six months previously she had had an analogous attack of obstinate vomiting, in which her life was despaired

of. The fourth death took place from a supposed attack of malaria, to which the patient was liable. Both ovaries had been removed, the larger one weighing about thirty pounds. There were omental adhesions and very firm parietal ones, needing a number of ligatures. She recovered promptly from the operation, the wound united, the stitches were removed, and she was allowed to sit up out of bed. On the seventeenth day malarial fever with bilious vomiting set in, and she died rather suddenly on the twenty-first day, with symptoms of heart clot.

Of the nine oöphorectomies, four were performed for ovarialgia, three for bleeding fibroids, one for epilepsy, and one for a menorrhagia which had resisted every known therapeutic measure.

In three cases of ovariectomy, all of them with papillary cysts, rupture had taken place a few hours before the operation; but, although the peritoneum seemed thickened and injected, no bad result followed. He considered papillary cyst to be benign in the very great majority of cases, and that the danger from the escape of ovarian fluid into the abdominal cavity was very much overrated. He had not refused to operate in a single instance of ovarian tumor, no matter how low the patient was, or how firm were the adhesions. He had consequently had several exceedingly difficult operations. Out of his twenty-eight ovariectomies, there were twenty-one with adhesions. In four, the adhesions were universal; in eight more, they were intestinal; and in three, they were uterine. This very large proportion of adhesions, when compared with those of European operators, he could explain only on the theory that physicians in this country have not yet been educated up to the idea of an early operation, and to a recognition of the evils of tapping. In the successful case of hysterectomy, a tumor weighing eight pounds was removed, together with a portion of the enlarged womb. As the uterine cavity was not invaded, the large pedicle was transfixed, tied, and dropped. The four exploratory incisions were made with the view of removing the ovaries, on account of fibroid tumors of the womb. But in each, the tumor was so fixed by adhesions that the ovaries could not be reached; and the patients had previously stipulated that, in that case, the uterine growth was not to be removed. All did well. So also did a case of pelvic abscess communicating with the bladder and rectum. It was opened per vaginam by means of the abdominal incision, by which its exact position and size were determined. . . . With regard to the technique of the operation for laparotomy, Dr. Goodell stated that he used the ordinary knot and the Staffordshire knot indifferently; that he now, in the long incision, cuts directly through the umbilicus, instead of going around it on the left side; that he includes the recti muscles and all the tissues in the abdominal sutures; and that, while not a very firm believer in the spray part of antiseptic surgery, he had resorted to the atomizer in every case but one, and that one did as well without it as most do with it.

DR. MONTGOMERY thinks Dr. Goodell should be congratulated upon his success, which is remarkable for operations in unselected cases in the United States. He thinks the knowledge of the safety attending the application of Monsel's solution to oozing abdominal surfaces very gratifying. He would have used it recently but for the fear of bad after-effects. He must, however, again enter his plea for the second ovary. In young women, small ovarian cysts are common; they are frequently found in post-mortem examinations when there had not been the slightest evidence during life of their presence; and, evidently, these small cysts do not necessarily develop into large ones. The two cases of secondary ovariectomy reported by Dr. Goodell are not sufficient to warrant the rule of removing the second ovary when it is but slightly diseased. As a counter-weight to Dr. Goodell's cures, he would mention that, in the instance of a young married woman from whom he removed an ovarian tumor, and in whom he left the other ovary, which was slightly affected, pregnancy has since occurred, followed by the delivery of a living child.

DR. KELLY remarked that Dr. Keith had had remarkably good results from the application to oozing surfaces of a solution of pernitrate of iron. He has observed the gradual disuse of carbolic acid in washing-waters in operations. Dr. Kelly prefers boiled or distilled water as used abroad, as he is sure that carbolic acid and other germicides are frequent causes of poisoning and bad results after operation. He asked Dr. Goodell: What were his rules respecting the drainage tube?

DR. BAER had experimented with Monsel's solution. In one case in which he used it, he attributed the fatal result to it. The coagulation by the iron is unsightly, and he should now consider it a last resort. He had had very good results from pressure, by packing sponges against the bleeding points, combined with external pressure. He withdraws the sponges at the last moment before tightening sutures, and then bandages the abdomen tightly.

DR. GOODELL remarked that Dr. Montgomery was perfectly right in his defence of the second ovary, and he himself had performed double ovariectomy in only seventeen cases of the twenty-eight. He did not believe that every ovary studded with cysts would inevitably degenerate into an ovarian tumor. So, in the case of slightly diseased ovaries in young married women, he would be disposed either to let them alone, or to remove the diseased portion only. But in women approaching the climacteric, or where other conditions would make it advisable, he would remove the second ovary as useless in itself, and as a possible source as future trouble. He has used the drainage tube but three times during the past year: once in the unfinished case of oöphorectomy, again in the case of torn bladder, and in the case requiring over thirty ligatures, and with universal adhesions. In general, he uses it when a free oozing of blood is to be expected, but he regards it as a source of trouble, and removes it as soon as possible.

TRANSACTIONS OF THE OBSTETRICAL AND GYNECOLOGICAL SOCIETY OF WASHINGTON.

Stated Meeting, November 6th, 1885.

DR. S. C. BUSEY, *President, in the Chair.*

DR. HENRY D. FRY read a paper on

THE VALUE OF THE ANTISEPTIC SYSTEM IN PRIVATE OBSTETRICAL PRACTICE; CONCLUSIONS BASED ON A STUDY OF THE PUERPERAL TEMPERATURE.¹

DR. BARKER, in opening the discussion, said he agreed with Dr. Fry in most of his points. He thought, however, that too much stress had been laid on the disinfection of the hands of the accoucheur, while other methods, such as that proposed by Dr. Garrigues, had been left out of consideration. All were not agreed as to the safety of the bichloride. Wylie preferred carbolic acid and attention to cleansing the vulva. Goodell recommended turpentine. Many recommend frequent vaginal injections, which, however, could not be compared to antiseptic surgical dressings. Dr. Fry contended that the great value of Credé's method of expressing the placenta consisted in the fact that the hand was kept out of the vagina, but he thought there was less danger from putting the hand in than there was in permitting a clot of blood to remain. He also objected to intrauterine injections, there being some danger from admission of air. He remembered a case where the patient did well until the injections were left to the nurse, and, on one occasion, air entered, and fever and convulsions resulted.

DR. FRY said he used a napkin, with absorbent cotton placed between it and the vulva. This he thought sufficient in private practice.

DR. HAGNER had always felt great interest in the antiseptic treatment of childbirth, and some time since had mentioned to Dr. Busey some notions as to antiseptic dressing after labor, but was informed that Garrigues had long since carried out his views. Dr. Hagner thought Garrigues' pad might be improved by passing a drainage tube through it and into a vessel containing water for the reception of the discharges. He fully agreed with Dr. Fry as to the value of conducting a labor antiseptically, and especially insisted upon thorough disinfection of the hands. He disagreed, however, as to the application of lubricants; thought carbolic oil of use when the vagina was hot and dry.

DR. J. TABER JOHNSON thought all of us were in need of the suggestions made by Dr. Fry; for most practitioners did not carry out even part of the antiseptic method, and thus many patients were infected who need not have been. Many women die annually of puerperal fever, and if, as claimed by Dr. Fry, this disease was preventable, it was our duty to adopt a preventive system of

¹ See original article in this number.

management. If it could be prevented, then its occurrence must be due to carelessness, and we would be culpable if we did not prevent it in future. Garrigues states that in the lying-in hospital, under his charge, the death rate from puerperal fever used to be from 40 to 50 a year, or 7.5 per cent, and this, by the employment of his antiseptic method, has now been reduced to .75 per cent. Richardson, discussing Garrigues' paper at the recent meeting of the A. G. Society, said that, with his antiseptic treatment, mortality from puerperal fever was a thing of the past, while before its adoption he had spent two years fighting this disease in the hospital with which he was connected. Lusk said he had twenty-eight deaths from puerperal fever in one year, but after adopting the antiseptic pad he had seen no milk fever, nor had a death, and that it was now safer for a poor woman to be delivered in their Emergency Hospital, with the pad, than for the rich woman to be delivered in her Fifth Avenue home without antiseptics. The value of the method having been proved, it should be carried out. It was not necessary to make the hands sore by scrubbing them in carbolic acid solutions with stiff nail-brushes. In some cases of labor, many examinations are made, and the fingers wiped off and again introduced covered with dried secretions. Here, he thought, harm was done, which might be obviated by dipping the hand in an antiseptic solution kept near by for that purpose. He must, however, object to the cast-iron rule of vaginal injections after every normal labor, and when the woman was doing well, with the discharges inodorous and healthy. In these cases, nature provides a fluid which glazes and protects the slight abrasions in the vagina. As a rule, putrid infection does not set in before three days after labor, and in normal cases, nature has by this time sealed the slight wounds. But if there was rise of temperature, with fetid discharges and other evidences of infection, we should then wash out thoroughly, and not be content with vaginal injections, but use intrauterine injections of hot carbolyzed water, which would promote contractions and were antiseptic at the same time.

DR. A. F. A. KING spoke of the fallacy of reasoning based upon the idea that labor among highly civilized women of the present day was in all respects a purely natural process. Hence Dr. Johnson's argument against the "cast-iron" rule of giving vaginal injections in every case did not hold good. Dr. J. had said we should inject only in cases of necessity, because in a normal case nature was adequate to heal abrasions in the genital canal, caused by the birth of the child, etc. Dr. King objected to this mode of reasoning. To draw any correct deductions from the study of nature, we must study those cases only which are, in all respects, purely natural. With civilized women scarcely any such case could be found. The savage woman, after natural labor, rises to her feet and walks, perhaps to some neighboring stream, where she washes herself and her child, thus securing complete emptying of the vagina and womb from retained clots, etc. Our women, on the contrary, remain for days in the horizontal posture, the flaccid vagina often retaining discharges poured into it from the uterus, providing all that was needed for the development of micro-organisms; hence the natural method of emptying the vagina by gravitation and drainage of its contents was here departed from, and hence the propriety of cleansing it by the artificial method of injections. The same fallacious objection had

been urged against wearing spectacles early in life, on the ground that a natural eye requires no artificial aid. Nature, however, did not provide books, printing presses, illuminating gas, and electric lights, by which the eye was overworked, and for which artificial aid, by glasses, became necessary. He thought Dr. Fry's paper one of the most important and useful ever presented before this Society, although he had hoped Dr. Fry would give more of antiseptic methods than the mere disinfection of the hands. The whole bed was full of germs, and the mere cleansing of the fingers did not destroy them. Therefore, if the record was based on this method alone, the success might be a coincidence, and would at least require additional proof of its being due to the plan adopted by Dr. Fry.

DR. J. T. JOHNSON, replying to Dr. King's strictures upon his remarks upon the cast-iron rule of vaginal injections, said the best rejoinder was the fact that so many women recovered perfectly without them; hence the rule did not hold in all cases, and, reasoning from this, we need not adopt it as a rule for the entire race of women. He would and did always use them when there was an abnormal odor or retained matter.

DR. BUSEY asked whether Dr. Johnson had ever seen lochial discharges without odor?

DR. J. T. JOHNSON had not. The odor was *sui generis*, just as the menses and amniotic fluids had their peculiar odor. He had a case some time ago, where he was called to see a girl whose mother informed him that her daughter had swallowed a fish-bone, which had given her colic. The peculiar odor present convinced him the girl was in labor.

DR. BUSEY said Dr. Johnson had spoken of sweet lochial discharges. He had never seen such, and thought if all the statistics could be collected, we would find many more deaths from sepsis than now. Dr. Johnson's argument was not good. While heartily commending the paper in general, he must take exception to some of its points. Thus, he would not abandon vaginal injections because of an occasional accident. He had had a case very much like that spoken of by Dr. Fry, where the injection was followed by pain, fever, and tenderness, the temperature rising rapidly to 104.5, but was normal next morning. He was convinced that water had been thrown into the uterus, because the nurse informed him that there was a sudden gush of fluid, although she had been particularly careful to introduce the nozzle of the syringe only half the usual length. This very precaution caused the accident. He was in favor of vaginal injections in all cases, and gave one a day as a rule, but not for a month. He narrated case where the patient was sitting up seven days after labor, and a sudden gush of fluid, of horribly offensive odor, took place. This recurred in the afternoon and again on the next morning. There was no rise of temperature, nor acceleration of pulse; but the nurse gave an antiseptic injection after each discharge. Garrigues' method was good, but he thought that cleanliness was the great point, and that in many cases hot water was all that was needed.

DR. FRY's view of the septic origin of milk-fever was not new, as many held that opinion to be the correct one. He did not believe all cases of milk-fever were septic, as there might, in some cases, be conditions in the breast producing it. In a recent case, where he found high fever, he discovered a supernumerary mammary

gland in the left axilla, which was swelled and tense; he pressed out the milk, and all the symptoms passed off. Now the baby empties it completely through the left breast. While sepsis was the general cause, it was not the cause in all cases. He must agree with Dr. King that the method adopted by Dr. Fry was not sufficient, and that twenty-six cases of success were not sufficient from which to deduct general conclusions; in the next twenty-six cases, good grounds for modifying his method might be found. As far as his experience went, antiseptic midwifery was the only proper method, and he was ready to advance in that direction, and was therefore willing for a trial of Garrigues' plan. He thought, however, the latter was complicated by the iodoform treatment (which was excellent in puerperal diphtheria), for he was not ready to introduce one hundred grains of the drug into a puerperal vagina. He had seen harm done by iodoform applications in joint affections, and in other cases where large quantities had been used. The appetite was destroyed and the patient greatly reduced, so that he thought it better not to resort to such free use of the drug.

DR. W. W. JOHNSTON advocated the use of vaginal injections; they favored the process of involution, he thought, and this alone would be a strong reason for their employment. Furthermore, they tended to aid the healing of the abraded surfaces which existed in all primiparæ, as also the irregular lacerations of the cervix uteri. In the cases reported by him last year, and in others in which he had examined the cervix after labor, he had found the cervix red and inflamed, and he believed that it was more or less abraded or inflamed in all primiparæ, and that washing its surface prevented infection. If we once cease to be fearful of the danger of irrigating the interior of the womb, we will do it oftener. If disinfection of the vagina is wise, certainly, disinfection of the uterus is wiser: vaginal irrigation is at best but a part of necessary and complete irrigation. He held that Dr. Taber Johnson's argument was untenable; we could use nature pro and con in arguing upon these cases. The same was true of the plan, so generally adopted, of following the uterus down with the hand, in order to favor the expulsion of the placenta. The uterus could be trusted to empty itself of the child, but it needed aid for the expulsion of so small a mass as the after-birth. He thought the rule shows how far parturition has ceased to be a physiological act.

DR. BUSEY contended that during the first few days part of the vaginal injection did enter the uterus, which was wide open, and thus washed it out.

DR. FRY, in closing, replied to Dr. Barker by saying that, when the hands of the accoucheur are thoroughly cleansed and disinfected during attendance upon cases of labor, many of the antiseptic precautions formerly considered necessary during the lying-in are rendered worse than useless. He further spoke of the necessity of removing all deposit from beneath the nails of the examining fingers, as this, examined microscopically, would be found full of germs. He believed the plan recommended to be all that is demanded in ordinary cases occurring in private practice. He did not base his conclusions entirely upon the result obtained in these twenty-six cases, for he had distinctly stated that the same line of treatment had yielded like success in the hands of other advocates of the antiseptic system.

He had not quoted the brilliant success obtained in hospitals by adopting an antiseptic course of treatment.

The experience of Tarnier at the Maternité in Paris showed, as a result, a steady reduction of mortality until not a single death had occurred in the last seven hundred and eighty-five labors.

DR. FRY had not abandoned vaginal injections because of the accident mentioned in the paper, but because he did not consider them necessary unless demanded by fetid lochia or by fever. The natural odor of the lochia is peculiar to it, just as bile, urine, and other excretions possessed characteristic odors. The most dangerous of all germs, the round micrococci, impart no odor by their presence in the lochia.

He mentioned a case in which he had seen four supernumerary mammary glands, the woman having six breasts and six nipples. This woman was from New Jersey. Curiously enough, soon after he came to Washington to practise, the same woman presented herself to him for the purpose of having an abortion produced. With reference to the cases reported by Dr. Johnston, in which an inflamed condition of the cervix was observed, it should be remembered that these patients all suffered from septic fever at the time, and therefore should not be taken to represent the usual condition of the parts in normal cases.

For the purpose of promoting involution, he is accustomed to give fifteen or twenty drops of the fluid extract of ergot, three times a day, according to the suggestion of Dr. Thomas.

TRANSACTIONS OF THE GYNECOLOGICAL SOCIETY OF CHICAGO.

Meeting, December 18th, 1885.

The President, DANIEL T. NELSON, in the Chair.

DR. W. W. JAGGARD read a paper entitled

TWO RECENT MODELS OF THE AXIS-TRACTION FORCEPS.

The object of the paper was not the description of some modification by the writer, although such a contribution to the literature of the subject would be perfectly legitimate in view of Pajot's witty remark to the effect "that he does not reproach a man for having invented a forceps, since that might happen to any one."

—*Barnes.*

Breus and Felsenreich, formerly assistants respectively in the third and first obstetrical clinics of the Vienna General Hospital, have recently made important alterations of Tarnier's axis-traction forceps. The importance of these modifications was so great that no apology was demanded for calling attention to the instruments.

Historical.—As the result of the labors of Sir J. Y. Simpson,

Naegele, Busch, Levret, and others, the low forceps operation may be regarded as a comparatively perfect operative procedure, both as regards instruments and mode of operation. The case is different with the high forceps operation. This operation is always difficult, and sometimes dangerous with the instruments mentioned. The cause is obvious. The applied force can be resolved into two components, one in the direction of the axis of the plane of the inlet, the other perpendicular to the first, directed towards the posterior surface of the symphysis. The first component is alone active in causing the descent of the head; the second makes the extraction more difficult, and exposes the maternal tissues between the head and symphysis to traumatism. As remarked by Schauta ("Grundriss der Operativen Geburtshilfe," Wien, 1885, p. 162), "the unphysiological and therefore mischievous element in the operation of the forceps, as compared with the effects of uterine contractions, when the head is at the inlet, consists in the fact that the forceps draws the firmly-held head in a direction which it can never follow, while the uterine contractions simply drive the head into the pelvic cavity, and permit it after that to seek the direction of least resistance." The older obstetricians, fully recognizing these facts, attempted to apply the power to the classical forceps in such a way as to secure a more favorable direction of traction. Osiander (1799) and Stein, Sr. (1805), may be mentioned among the older obstetricians who devised instruments for making traction in the axis of the inlet. Hermann (1844) (*Kilian's Armamentarium lucinæ novum*) constructed an instrument in which an iron lever is attached to the lock. J. P. Hubert (1860) attached a vertical iron lever to the extremities of the ordinary forceps. This lever was subsequently attached to the lock. Eugène Hubert, his son, constructed an axis-traction forceps with parallel branches and a sharp perineal curve. Chassagny, Joulin, Pros, Poulet, Moralès Apaca (1871), and others have constructed various types of axis-traction forceps at a more recent period. In many of the modern French instruments an attempt has been made to apply some of the well-known principles of veterinary surgery.

Tarnier's Forceps.—In 1877, Tarnier, following in the wake of Hermann, Hubert, and the more recent French inventors, constructed and published a description of his well-known instrument. Since that time he has produced more than thirty distinct models. His last model consists of the classical forceps of Levret (without a perineal curve), and axis-traction rods attached to the posterior inferior border of the blades, or spoons. Tarnier claims a number of advantages for his instrument over any other axis-traction forceps. He claims that it is superior to the classical instruments in the following particulars:

1. It is possible to apply traction in the direction of the principal pelvic axis.

2. Sufficient mobility is conferred upon the child's head to permit it to seek its way through the pelvis in the direction of the least resistance.

3. The handles indicate to the operator the direction in which traction should be made.

With reference to the first proposition, it may be said that traction with Tarnier's forceps is not made in a curved line, accurately coincident with the principal pelvic axis, when the head is at the inlet. Nor is traction in this direction absolutely necessary, as remarked by Schauta, seeing that the resultant of the forces, developed by uterine contractions, and the resistance opposed by the pelvic floor, does not propel the head in the direction of the principal pelvic axis.

The handles, as indicators of the direction in which traction should be made, are of relatively slight value.

On the one hand, the operator who is at all qualified to apply the forceps to the head at the inlet, ought to have a correct conception of the direction in which traction should be made. On the other hand, strict attention to the handles may prevent the operator from observing a number of important events, *e. g.*, the relation of the head to the vulva, slipping of the instrument, etc. (Schauta).

Finally, the handles are not a correct indicator of the direction of the principal pelvic axis.

The advantage of Tarnier's forceps over its predecessors lies in the mobility conferred upon the fetal head by the joint uniting blades and the so-called axis-traction rods. The head does not follow the direction of the principal pelvic axis, but seeks the path of least resistance. In consequence, the operator is spared the fatigue of unnecessary effort, and the mother the dangers of traumatism from violent traction.

I. Breus has recently constructed an instrument which has a great advantage over the forceps of Tarnier, in that a greater degree of mobility, during traction, is conferred upon the head.

The continuity of the blades (*Löffel*) is interrupted at and below the fenestræ, by a strong flat joint, which admits of movements in the sagittal direction, and corresponding variability in the angle at which traction is applied to the head. The superior ribs of the instrument are prolonged, and turned upward like spurs. The spur-like prolongations are joined by a metallic rod in order to preserve a certain parallelism of the blades.

Apart from these peculiarities, the instrument is identical with the original model of Sir James Y. Simpson's forceps.

This instrument, devised by an obstetrician of large experience, is employed on an extensive scale at Vienna, in Gustav Braun's obstetrical clinic. Schauta ("Grundriss der Operativen Geburtshilfe," Wien, 1885, p. 164, et seq.) recommends the instrument as the most perfect axis-traction forceps in existence to his classes

at the University of Innsbruck. Fürst's recent favorable note on Breus' forceps in the *Centralblatt für Gynäkologie*, 1885, is well known.

II. *Felsenreich's Modifications of Dr. Alexander Simpson's Modification of Tarnier's Axis-Traction Forceps.*

In 1880, Alexander Simpson, of Edinburgh, sent to Carl Braun a modification of Tarnier's axis-traction forceps, which at once superseded the French instrument in the first obstetrical clinic of the Vienna General Hospital. Simpson substituted Sir J. Y. Simpson's original model of the classical instrument for Levret's. The compression-screw is located on the upper third of the superior surface of the handles. Comparatively unimportant modifications were made with reference to the traction-rods, and the hard-rubber handle, into which the traction-rods fit. Felsenreich has materially enhanced the value of Dr. Alexander Simpson's instrument by a number of important alterations.

Felsenreich's modification of Alexander Simpson's axis-traction forceps, as shown by the model presented, manufactured by Mr. J. Leiter, of Vienna, during October, 1885, consists of the following parts:

I. A practically unaltered model of Sir James Y. Simpson's forceps (*Wiener Schulzange*).

II. Button-hole perforations, one behind each fenestra, into which traction-rods are inserted, and maintained by the buttons on the ends of the rods.

III. A removable compression thumb-screw, which sinks into a groove made in the extremities of the handles of the Simpson's forceps.

IV. A hard-rubber handle for the traction-rods. The arrangement for the insertion of the traction-rods into the hard-rubber handles differs from the mechanisms in Tarnier's and Alexander Simpson's axis-traction forceps.

The attachment of the compression-screw to the ends of the handles, and certain changes in the curve of the axis-traction rods have been made at a comparatively recent period, but prior to 1883.

In conclusion, Dr. Jaggard said that he was of the opinion that the axis-traction forceps of Breus and Felsenreich were superior to the most recent model of Tarnier's, or any other axis-traction forceps that had come under his observation. He requested that the discussion be limited to the comparative merits of the forceps presented—Breus' and Felsenreich's—and other recent models of the axis-traction instrument.

DR. JOHN BARTLETT said that he had devised an axis-traction forceps in 1880, identical in principle with the instrument constructed in 1860 by the elder Hubert. His attention had been first called to the coincidence by Lahs' monograph on "*Die Achsenzug-Zangen*," Stuttgart, 1881.

DR. PHILIP ADOLPHUS, DR. A. REEVES JACKSON, DR. H. P. MERRIMAN, DR. H. P. NEWMAN had never observed indications for axis-traction forceps; had never employed such instruments, and thought they were unnecessary.

DR. JAGGARD said he had no desire or intention to discuss the general subject of axis-traction forceps, and had expressly requested that the discussion should be limited to the consideration of the relative merits of the instruments presented for examination (Breus' and Felsenreich's), and other modifications of the axis-traction forceps. He thought that gentlemen of limited experience in cases indicating the high forceps operation, and particularly those who had absolutely no experience with axis-traction instruments, should be temperate in their criticism. Carl Braun, Pajot, Charpentier, and others, had practically rejected such instruments, but only after serious and experimental consideration of their merits. On the other hand, many younger obstetricians, including Schauta, Felsenreich, Breus, Ehrendorfer, thought there were cases in which they might be profitably employed.

DR. HENRY T. BYFORD read a paper, entitled:

REPORT OF A CASE OF PELVIC ABSCESS, WITH REMARKS UPON THE
TREATMENT.

Mrs. T., aged 25 years; married five years; German descent; of nervous temperament; small and slight in figure, but in good general health, consulted me, during the fall of the year 1884, for sterility and dysmenorrhea. She had never menstruated without pain, but had otherwise enjoyed good health. An examination revealed a small uterus and cervix, with acute ante flexion and consequent apposition of the anterior and posterior uterine walls. Slippery elm tents, used about once in eight days, alternated with glycerin tampons, had for their effect a gradual relief of the dysmenorrhea.

About the middle of the following February I was called to her house to treat her for a severe attack of pelvic cellulitis, contracted a week before while returning home from a dance. The whole pelvic connective tissue seemed involved, and large tender lumps could be felt externally in the left iliac region.

Six weeks from the beginning of the attack an abscess opened into the anterior wall of the rectum, about two inches from the external anal orifice. On account of the extreme debility of the patient, her horror of operative procedures, and the absence of any well-marked fluctuation, all surgical interference with the suppurative process had been out of the question.

Palliative treatment was instituted and continued without effect until the 6th of June. In the mean time the pulse remained in the neighborhood of 120° F., and the temperature fluctuated between 99° F. and 102° F.; attacks of acute suffering and septicemic diarrhea required opiates for their relief; the bacillus tuberculosis was discovered in the pus; yellow pigmentary deposits covered her face, and emaciation became extreme, her weight ranging between

eighty-two and eighty-three and one-half pounds. Her courage began to fail, and finally after the concurrent recommendation of the consultants, Drs. Wm. H. Byford, J. E. Owens, George M. Chamberlin, and Martin Matter, she consented to an operation.

Accordingly, on the 6th of June, Dr. Wm. H. Byford operated according to his usual method in such cases. After etherization, he forcibly dilated the sphincter of the anus, tore open the fistulous track with the finger, and then enlarged the abscess in the same manner, in the direction of the lowest part of the cavity, until it readily admitted two fingers. I then made a digital examination, and found the abscess to extend across the pelvis, behind the uterus and broad ligaments, above the level of the fundus uteri on the left side, and to be filled with bands and projecting masses of granulation tissue of about the consistency of freshly coagulated blood. Previous treatment, except to diminish and control the septicemia, had evidently been a complete failure. All of this medullary tissue was then scooped out with the finger, and the cavity thoroughly cleansed with a two and a half per cent solution of carbolic acid.

The highest temperature after the operation was 99° F., on the day following. Perfect drainage had been secured, for, at the time of each dressing no pus was found inside of the abscess.

The cavity of the abscess was treated by irrigation with antiseptic solutions, insufflation with iodoform, and the introduction of cupric sulphate.

Early in September she was attacked with the then prevalent epidemic, dysentery, and died on the 23d instant.

At the post-mortem examination, made about thirty hours after death, I was somewhat hampered on account of a promise, exacted by the husband, that no organ should be taken out of the body, and by the fact that I had but thirty minutes for work before train time. The body had again become extremely emaciated. Abdomen was flat. An incision was made from a little above the umbilicus to the pubic bone. The pelvis was filled posteriorly with a solid mass of plastic tissue, which had drawn the uterus backwards to within about half an inch of the sacrum, so as to put the anterior vaginal wall upon the stretch, and had buried the uterus and other pelvic organs in its substance. Both round ligaments were seen issuing from this mass. It was necessary to cut down about half an inch before reaching the depressed uterus, and to tear through solid tissue behind it to arrive at the rectum below. The finger broke through into the rectum, behind the dimpled cicatrix that marked the site of the former outlet of the abscess. The left broad ligament was then felt to be represented by, or inclosed in, a tough band, half an inch thick, antero-posteriorly extending from the uterus to the left side of the pelvis. The left ovary could not be found. A small flat piece of what seemed to be ovarian tissue was found adherent to the bladder on the right side.

The right broad ligament was apparently disorganized and inseparable from the plastic deposit. The rectum was held inflated at the point where it issued from the pelvis, was dark-colored and injected on its external surface, and blackened and softened on the internal. Neither the appearance nor the odor of an abscess could anywhere be discovered.

There seem to have the two hinges, as it were, upon which the treatment of this abscess turned: first, the operation per rectum; second, the cauterization by sulphate of copper. Both secured a large opening at the lowest portion of the pyogenic cavity, and brought away the unhealthy granulation tissue. Had the patient consented to have the unobstructed outflow of the pus maintained by one or two subsequent dilatations, similar to the first one, the cure would undoubtedly have been more rapid. As it was, the contracting sphincter and abscess outlet rendered the drainage and irrigation imperfect. Progress toward recovery was, however, again inaugurated upon the melting away by the sulphate of copper of the newly and imperfectly formed cicatricial tissue, reproducing the opening made at the time of the operation, and by the destruction of the degenerative deposits and cauterization of the chronic pyogenic surface. The only kind of treatment preferable to this free drainage and clearing-out method is the strictly antiseptic, which, after the pus has once found a way into the rectum, can only be accomplished by first closing this septic inlet.

The treatment by a counter opening in the vagina is much less preferable, because a recto-vaginal fistula, difficult of cure, and liable, like anal fistula, to inoculate the system with tuberculosis, would be left.

The treatment by abdominal incision cannot for a moment be entertained, for at least two reasons:

1st. It is necessarily followed by a recto-abdominal fistula of great length, which is incapable of being promptly cured, and is apt to become an unfailing source of systemic infection. Those patients already operated upon, as far as reported, have usually either died shortly, or within a year or two, imperfectly cured. They would have, on an average, lived about as long without the operation. In fact, it is not impossible that one such, whom I had, previous to the operation, an opportunity of watching for a short time, would finally have recovered through the process of nature. To operate, as does Lawson Tait, before the abscess has discharged, and then treat it antiseptically through its single opening, is an entirely different matter.

2d. The danger of an abdominal incision should never be incurred without a prospect of compensation in the way of bettering the patient's chances of recovery. Neither theory nor practice as yet prove such compensation to be attainable.

In some cases, one dilatation per rectum, without after-treat-

ment, has sufficed for a cure; in other cases, two or more, with subsequent antiseptic irrigations, have become necessary. But, as a general rule, it may be said that, unless instituted too late, the procedure is safe, and the recovery sure.

DR. CHRISTIAN FENGER made some remarks on laparotomy as compared with other operations, of which the following is a brief abstract:

When a peri-uterine abscess points somewhere in the vagina around the lower part of the uterus, no surgeon would, of course, think of doing anything but opening the abscess, inserting a drainage-tube, and by washing out, endeavoring to effect the closure of the cavity. But in some cases the opening into the vagina is just as ineffective as a spontaneous opening into the rectum. In obstinate cases of this kind, laparotomy, at a later period, will have to be performed.

There is, however, no doubt that secondary invasion of septic poison, when the abscess is opened from the vagina, is much more difficult to prevent than invasion into the abscess from the abdominal opening. It is only in this way that we can account for the difference in the course of the after-treatment of peri-uterine abscesses opened through the vagina and through the abdominal cavity; a difference that Lawson Tait rightly calls attention to as being decidedly in favor of the abdominal operation. Here the abscess closes more quickly, and the course of the after-treatment is much less febrile than in the vaginal operation.

Sometimes a peri-uterine abscess will point into the rectum, sufficiently low down to permit of an opening here. It does not seem probable that the access from the rectum will be very promising, as effective drainage is next to impossible; but the cases of cure by spontaneous opening into the rectum evidently make an operation here permissible, and perhaps advisable, but only as a trial. If the abscess does not retract within a reasonable time, other measures must be resorted to.

It is needless to state that, if a parametritic abscess points anywhere along the iliac fossa, it should be opened and drained from this point; but this does not belong to my subject of to-night, as I desire to call attention only to strictly circum-uterine abscesses, which can only be reached from the vagina or from the suprapubic region.

When a circum-uterine abscess does not point downward, and, in fact, does not point anywhere, it is then the surgeon's task to find the safest way into the abscess through a smaller or larger amount of surrounding tissues.

We shall first consider the vaginal operation.

When so eminent an authority as Schroeder, of Berlin, advocates this method of reaching a high peri-uterine abscess there must be cases in which this operation is advisable. From a general point of view, an extra-peritoneal outlet of the abscess through the vagina would seem to be safer than laparotomy, upon the same grounds as a vaginal hysterectomy is safer than Freund's abdominal hysterectomy, and Schroeder's successful operation, already mentioned, vouches for the method.

At the same time, I firmly agree with Lawson Tait, that there are some grave objections to the vaginal operation. In the first place, a high-seated peri-uterine abscess is difficult to reach. It

is difficult to work with safety two or three inches above the introitus of the vagina, in tissues that are immovable, and where the parts cannot be drawn down toward the operator. These difficulties are, of course, of less importance in the master hands of an operator like Schroeder, but increase in significance for less experienced surgeons.

But the operation through the vagina is more or less an operation in the dark. We may be dissecting up along the posterior surface of the neck of the uterus, and may open into recesses of the peritoneal cavity between the abscess and the uterus. Further, it might be easy in this place to open into the rectum.

Another danger, especially in abscesses between the two layers of the lateral ligament, might easily arise from the rupture of the large uterine vessels running in the wall of the sac. It would be exceedingly difficult, and I should say next to impossible, under such circumstances, to secure and ligate these vessels, the point of ligation being so high up, the working space so small, and the tissues so immovable.

All those objections and dangers we do not encounter in laparotomy. We can see distinctly, and recognize with our own eyes, every particle of tissue we have to divide; the large uterine vessels, if divided, can easily be taken up and ligated. There is no risk of having any communication between the abscess and peritoneal cavity, which we cannot either close up or drain.

If the laparotomy lasts longer, and gives more technical work to the surgeon, it seems to me that these objections are fully balanced by the advantage of not being obliged to operate in the dark, of not having to battle with enemies that we cannot see, and consequently cannot guard against.

But these are not the only advantages of laparotomy, as compared with the vaginal operation. The free access to the whole interior of the abscess cavity has also to be taken into account. By laparotomy, the abscess is laid open to about the same extent as a tubercular periarticular abscess. We can examine the whole interior of such a cavity, and scrape off, or remove by other means, whatever objectionable material we may find, cheesy matter, tuberculous tissue, fungoid granulations—since we can see clearly every place where the instrument is applied, without any danger of going through the abscess wall into any surrounding cavity or organ.

It is more than possible that this free access to the abscess wall has something to do with the speedy recovery subsequent to laparotomy, as compared with the vaginal operation.¹

But, of course, there will always be connected with laparotomy the inherited dread of opening that ominous peritoneal cavity. Modern surgery, however, is making steady progress in diminishing these dangers. Thus the dread, as well as the safety of the patient will, to a great extent, rest in, or depend upon, the care and skill of the operator.

DR. W. H. BYFORD: I do not wish to comment upon the contents of the paper further than to express myself in reference to the mode of operating adopted in consultation with the gentlemen mentioned. A large number of pelvic abscesses can be managed through the rectum with more facility and safety than any other medium of approach to the deep-seated portions of the pelvic cav-

¹ Lawson Tait, *op. cit.*

ity. I do not know whether there are any cases wholly situated in the pelvic cavity but that can be reached, opened, and evacuated through the rectum. It may not always be the most eligible direction to approach collections of pus. In instances in which the pus is making its way towards the vagina, and fluctuation can be felt through the vaginal walls, it ought to be evacuated through that canal; but when the point of discharge is not thus indicated, the exploration is most easily made through the rectum; and all chronic cases that have already commenced to discharge into the rectum can and ought to be treated from the cavity of that viscus. I would make no exception, however high the opening might be, so it was within the pelvic cavity. By proper preparation, the whole length of the rectum can be reached from the sphincter to the promontory of the sacrum, and from any part of it the pus evacuated; the pyogenic cavity explored, and drainage and irrigation safely and securely accomplished.

I believe the dangers of this mode of operating to be incomparably less than by abdominal section; and the other results of the operation—such as drainage and disinfection—more complete.

To effect the objects mentioned, the sphincter should be stretched to laceration; and until there is no tendency to immediate contractions of the anal opening, and till it can be dilated to the full extent of the rectal cavity. Thus thoroughly opened, the whole extent of the rectum can be explored with great facility, and often by means of dilators can be seen, and instruments used under the eye of the operator.

If the pus is to be sought after, palpation with the fingers becomes easy and satisfactory; if it is being evacuated, the orifice can be seen or felt, and such treatment as is desired applied. I very much prefer stretching and tearing for the purpose of increasing the size of the discharging orifice to the use of cutting instruments. The opening will not so readily close, and there will not be so much hemorrhage.

In effecting the discharge of the pus, we should remember that the reason why the pyogenic cavity is at no time wholly obliterated is because there are irregular loculi or pockets so situated that they do not empty themselves. The opening should therefore be made large; the parts torn by the fingers until this inferior margin of the opening is as far below the main body of the cavity as practicable. With the fingers, the interior bands and partitions should be completely broken down, and the interior of the cavity rendered as nearly symmetrical as possible. This will enable the whole of the contents of the cavity to escape by means of gravity, and the fluids used in irrigation find their way out without difficulty. In addition to this shaping of the cavity, the large granulations—generally so abundant—should be scraped away by the fingers or by a dull curette, thus freshening up the lining membrane of the pyogenic cavity, and converting it from a state of indolent ulceration to one disposed to heal. This process of curetting also produces a change in the capillary circulation that makes nutritive processes more salutary. Often in very indolent cases, the sphincter will recover contractile power to such a degree as to require one or more repetitions of the operation. The same thing may be said of the margin of the orifice in the intestine. We will be obliged to enlarge it, and treat the cavity as before.

In the case narrated in the paper, the action of the sulphate of

copper seemed most useful, and contributed the last influence necessary to the cure.

I have said nothing about the more common items of treatment, such as irrigation, disinfection, and stimulation. My intention is to show the facility with which, in many instances, these purulent collections can be reached and treated by dilating and distending the rectum, and the comparative safety of such proceedings.

DR. E. C. DUDLEY: The experience of Dr. Byford and others in the treatment of pelvic abscess by this operation must be considered as proving the great value of the operation in cases in which the abscess can be easily approached and thoroughly drained by dilatation of a sinus between the abscess-cavity and the rectum. It would, however, appear on general principles, that sufficiently free and long-continued drainage would in many cases be almost unattainable, and that an abscess-cavity left thus to heal must often be the starting-point of sinuses formed by the uncontrolled burrowing of pus in many directions. The almost inevitable invasion of the abscess-cavity by fecal matter is clearly a serious factor in connection with the history of these cases. The great mortality from pelvic abscesses opening spontaneously into the bowel demonstrates the inability of nature to provide for adequate drainage. Whatever question, therefore, we may raise relative to the advanced position of Dr. Wm. H. Byford, who, if practicable, would prefer to open a pelvic abscess through the rectum—even in those cases in which nature has not anticipated him—there can be no question about the propriety of enlarging and rendering more effective an opening already formed. I regret that the essayist has marred a most admirable contribution by the sweeping statement that in all cases in which drainage has been spontaneously established through the rectum, Lawson Tait's operation is contra-indicated. Nor can I imagine from what premises he has formed the conclusion that Tait's operation prevents closure of the sinus between the abscess-cavity and the rectum. The question naturally arises whether Tait's operation might not in such cases fulfil a well recognized surgical indication by establishing a free counter-opening for an abscess which otherwise might refuse to close on account of imperfect drainage, and on account of its forming a blind sac for the retention of fecal matter. To a larger number of recognized authorities, who deem an opening into the rectum, whether produced by nature or by art, a grave misfortune, the query would naturally arise whether such an opening ought not to be supplemented by a counter-opening, which would bring the draining and cleansing of the abscess-cavity within the easy and absolute control of the surgeon. Furthermore, in view of the decided mortality which attends the spontaneous opening of pelvic abscesses into the rectum, and in view of the almost uniformly successful results recorded in the statistics of Tait's operation already published by Mr. Tait and others, and in view of a very generally accepted rule that the operator in opening a pelvic abscess should strive to keep out of the rectum, I don't think a statement that the rectum is to be preferred as the site of the primary operation ought to go on the records of this Society unchallenged.

DR. J. T. JELKS (present by invitation) thought a great mistake was made in waiting too long before operating in cases of chronic pelvic abscess.

DR. PHILIP ADOLPHUS thought the paper was beyond the pale of criticism. When the general symptoms indicated a collection of pus, the cavity should be searched for. If a cavity containing serum was found, an operation was contra-indicated. If the cavity contained pus, it should be evacuated.

In closing the discussion, DR. H. T. BYRORD objected to the quotation of Lawson Tait's statistical triumphs in this connection. In the last edition of Tait's "Diseases of the Ovaries," abdominal section is recommended for those pelvic abscesses only that cannot be successfully evacuated from below. They are generally such as are situated high up, and do not point early in the vagina or rectum, or they are suppurating hematocoeles.

The statement that the recto-abdominal fistula, left after abdominal section for a pelvic abscess that has already discharged into the rectum, would heal readily, like any artificial anus, is not borne out by facts. Fistulae connecting the rectum with the external air have seldom healed, when left to themselves, before a long period of time has elapsed. Operative measures cannot, in these cases, be resorted to on account of the length, situation, and relations of the fistulous track.

TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF CINCINNATI.

Meeting, January 14th, 1886.

The President, DR. A. J. MILES, in the Chair.

DR. HENRY ILLOWAY reported the following case of

PUERPERAL PERITONITIS RESULTING IN SUPPURATION, SPONTANEOUS RUPTURE OF THE ABDOMINAL WALL, PERFORATION OF THE DIAPHRAGM, AND EVACUATION OF THE PUS THROUGH THE BRONCHIAL TUBES.

February 27th, 1883, I was called to attend Mrs. P. She is a Jewess, æt. 24 years, and of good physical development; she is of ordinary stature, and in good flesh. I found that about eight days previously the woman had been confined with a female child; a few days after her confinement she began to feel badly, but thinking it would pass off, she did not send for a physician. Her condition was then as follows: High fever, the thermometer registering 104° F. in the axilla; pulse 120, face had a hectic flush, tongue dry and somewhat red, great thirst, no milk in the mamma, the abdomen greatly distended, very tympanitic and tender to touch; lochia arrested; a vaginal examination disclosed nothing abnormal about the uterus, there being no tenderness or pain on pressing on the cervix. Sleeplessness.

I directed that clothes wrung out of cold water be placed over the abdomen, the same being then covered with dry ones; this process to be repeated as frequently as the wet clothes became warm. I ordered quinia sulph., grs. iij., and morphia sulph., gr. $\frac{1}{4}$, every three hours. She was to have a tablespoonful of whiskey every three hours, and beef-tea and hot milk. I also directed that her bowels be moved by an injection of warm water and oil, and that the vagina be washed out with warm water and carbolic acid. This treatment, with some slight variation as to the administration of the quinine and morphia, was kept up until some time in March. The cold compresses were also taken off after a week or two.

Though the patient seemed at times to improve, and though her general condition was much better than at the outset, still the febrile movement would not subside entirely; the morning temperature varying between $101\frac{1}{2}$ and $102\frac{1}{2}^{\circ}$ F., and considerable tenderness still remaining in the abdomen, especially in the left iliac and hypochondriac regions; it was also still somewhat distended. Over the centre of the abdomen the sensation to the touch was a doughy feel, as if there had been considerable exudation.

I requested my friend, Dr. Trush, to see the case with me. At his suggestion, the quinia was increased to grs. v. every three hours, and an ointment directed for application to the abdomen; this consisted of mercurial ointment, two parts, and belladonna ointment, one part, to be rubbed into the abdomen twice per diem, and then to be covered with oiled silk. This treatment was faithfully carried out for two weeks. The patient, however, remained in *statu quo*. About this time I noticed a small elevation about and around the umbilical region, and believing that pus was pointing there I directed the part to be poulticed. In a few days this prominence had markedly increased in size. At my request Dr. Trush again saw the case, and in his presence the prominence was incised, and a large quantity of pus of peculiarly disagreeable odor evacuated. I then injected a quantity of carbolized water to wash out the cavity as much as possible. For some eight days the pus discharged freely from the incision and then began diminishing in quantity. I washed out the parts through the incision twice daily by injecting carbolized water. After the opening of the projection and the discharge of pus, the febrile movement abated decidedly.

The events related here occupied the time from February 27th to April 14th, 1883.

The parties being very poor, the patient's husband was compelled by the exigencies of the case, the demands of the patient, and the attention necessary to the infant, to neglect his work, and it thus happened that he was unable to further provide the necessities demanded by the serious condition of his wife, and deter-

mined to put her into a hospital. She was taken to the City Hospital. Whilst there, she says, poultices were applied over the abdomen, and though the incision still discharged a little pus, it closed in a day or two. About the fifth day of her stay at the hospital, there was a second spontaneous opening further to the left, from which the pus flowed in great abundance. This second opening was situated on a line drawn obliquely from the umbilicus upwards and to the left; the length of this oblique line being about three inches, about two and a half inches to the right from the margin of the last false rib, and about one-third of an inch below the level of the latter. At the expiration of nine days she left the hospital, and was removed in the ambulance to the Spencer House, where her husband had rented a room.

Two days after her removal, her husband sent for me, asking me to come down and see her again. When I came to her room I found her in bed. Her general condition seemed considerably better than when I had last seen her. She was cheerful and in good spirits. She said she had a bad cough and was spitting up a great deal of matter; that she could not lie down at night to sleep, for when she lay down she coughed continually and spat up, whilst when she sat up in bed she had intervals of rest. I examined the cup containing the sputa, and found the expectoration abundant and very purulent—in fact, to use a vulgar parlance—nothing but lumps of matter. The odor was decidedly disagreeable, and I believe that I recognized it as the same as that possessed by the pus evacuated by me by the abdominal incision. I examined her lungs, but could find nothing that would indicate that the expectoration came from them. On inquiry as to when this expectoration had begun, she stated that on the day of her leaving the hospital she felt very much jarred by the ride home; that night she was seized with a violent fit of coughing and had expectorated this matter. It had continued since then. I ordered her a tonic, some alcoholic stimulant, and plenty of nutritious food, reserving my opinion as to the source of the expectorated pus. I saw her again at short intervals after this, and after several examinations came to the conclusion that this was pus from the abdominal cavity that had perforated the diaphragm, and thus found vent into the bronchial tubes.

I now thought if an opening could be made through the vagina into the abdominal cavity, and drainage tubes inserted, the pus might be drawn off in that way, and thus all danger diverted from the lungs, and great relief afforded to the patient. I therefore requested Dr. T. A. Reamy to see the case with me, and give me his opinion as to the feasibility of any such or other operative procedure. Dr. Reamy saw the patient, examined her, and was inclined to doubt the correctness of my diagnosis as to the source of the pus. As to any operation, that was out of the question—it could not be done.

I kept the patient under observation for some time. The great heat of summer, her narrow quarters, the restless nights, the continual cough, and above all, the lack of proper attention and proper nourishment, soon began to tell on her. She emaciated rapidly, had a high temperature, a hectic flush; appetite was nil. I advised her removal to the hospital. She went to the Jewish Hospital, where she was under the able care of Dr. Rosenfeld. A month or six weeks after her removal to the hospital, I visited her by the kind permission of her physician. I found her general condition somewhat better, owing to better surroundings and better nourishment, but her cough and expectoration were still the same. She could not lie down, and passed most of her nights sitting in the chair, as she said, when she lay down, she was continually expectorating.

In January, 1884, Dr. Ransohoff kindly sent me word that he would operate on the patient, and invited me to be present. On the day fixed I was at the hospital, and again carefully examined the patient's lungs. Dr. Rosenfeld, the physician to the hospital, also examined her and coincided with me, and I believe that even Dr. Ransohoff, who is inclined to take a different view of the case, could not detect anything in the thorax to account for this purulent expectoration. The patient was placed under ether, and Dr. Ransohoff enlarged the opening already existing and introduced a rubber drainage tube, putting it inward and downward about six inches. She was in the hospital three months longer and then left it for her home, Dr. R. kindly visiting her at her house.

She stated to me that when the abdomen was washed out, some of the injected fluid would pass into her mouth, "I could taste the drops in the water," she said, meaning the antiseptic put into the water.

In the summer of 1884, I saw her again once. She had a too profuse menstrual discharge. At that time the wound in the abdomen was still discharging, and she was still expectorating pus.

I saw her again in November, 1885. The purulent expectoration had ceased about four weeks already. She still coughed somewhat and expectorated frothy mucus—but no pus. The cough was mostly at night, though she slept well. The opening in the abdomen oozed only very little. Her general condition was excellent. She had gained greatly in flesh and strength, and was able to do the lighter part of her household duties, and get around very well generally. She said she still felt weak in her abdomen, and had to keep a tight bandage around it. I examined her lungs and, as before, found nothing abnormal.

Though some of the eminent gentlemen who saw the case with me are, or were, inclined to doubt the correctness of my diagnosis, I myself am more firmly convinced that it is the proper one, and fully justified by the history and course of the case.

It cannot be denied that we have had here a case of peritonitis, resulting in suppuration; the pus evacuated by the incision, about an inch above the umbilicus, is sufficient proof of this. Neither can it be gainsaid that the pus evacuated by the spontaneous opening in the abdominal wall came from this source. The only question is as to the pus expectorated by the mouth. It has been already stated that repeated examinations, made by myself and others, of the lungs disclosed nothing that would in any way indicate that these organs were at all affected. An empyema it certainly was not, for a mere inspection of the chest walls made that certain, much more the examinations already alluded to. The whole symptomatology and course of the case preclude any affection of the thoracic cavity. Having already a large suppurating surface in the abdominal cavity, it would certainly be folly to invoke some other imperceptible source for this pus. The strongest proof, however, is the fact, as already stated in the history of the case, that when the parts were washed out with antiseptic solutions through the spontaneous opening in the abdominal walls, this fluid ran into her mouth, and she could taste "the drops," as she says, meaning the antiseptic agent.

The records of cases of this character are very meagre. The text-books on puerperal diseases, so far as I have consulted them, make no mention of the possibility of such occurrence, and the periodicals, such as the *AMERICAN JOURNAL OF OBSTETRICS*, and the "*Transactions of the Royal Obstetrical Society*," so far as they have been at my disposal, have been equally fruitlessly searched.

However, cases having some of the features of the one recorded here have been observed. In his inaugural thesis, "*De la perforation de la paroi abdominale antérieure dans les peritonites*," Paris, 1859, Dr. Second Fereol has collected some cases of puerperal peritonitis, in which the abdominal parietes were ruptured spontaneously anteriorly, and gave exit to pus. In an article entitled "*De la rupture spontanée de l'ombilic à la suite de peritonite purulente*," Dr. Baizeau¹ cites the following cases:

The Countess de R., age 24, was attacked after an accouchement with puerperal peritonitis, and on the thirteenth day of the malady fluctuation was disclosed with certainty in the abdomen. A puncture was made with a trocar, and six litres of fetid pus withdrawn. After this operation, a transitory amelioration was produced, but the belly soon became painful again and protuberant. A small tumor developed around the umbilicus; it was opened, but only a very little purulent liquid exuded; four days after, however, there poured forth from this incision a considerable quantity of thick, grayish, flaky, fetid pus; the abdomen gradually emptied itself during five or six days, and there remained a

¹ *Archives Générales de Médecine*, Vol. i., 1875, p. 163.

fistula, which closed several times before it became definitely cicatrized, at the end of about six months.

The observation of Lepelletier, 1785, of a woman lately delivered, who, on the eighth day after confinement, was seized with symptoms announcing a peritonitis. The belly swelled, and fluctuation becoming certain, there were withdrawn, with a trocar, six pints of a milky fluid. Later on, the umbilicus became protuberant, ruptured, and gave issue to pus. The patient finally recovered.

In *résumé*, Dr. Baizeau cited an observation of his own of a woman who, after delivery, was seized with purulent peritonitis. A tumor formed about the umbilicus, opened, and gave issue to a large quantity of pus. A similar flow came from the vagina, and the condition, which lasted from the month of December to the month of March, terminated happily.

The observations, therefore, so far as they are related to women and the results of the puerperal condition, are few in number; the salient feature in these being the spontaneous rupture about the umbilical region, with the exception of the case last related, where a similar rupture into the vagina occurred.

Though the observations of purulent peritonitis with subsequent rupture of the abdominal parietes in women are few in number, it is entirely different in children; there the observations have been much more numerous. In the article by Dr. Baizeau, already referred to, there are mentioned the cases published in the various treatises and publications, besides the two cases that are given in extenso, and which came under the author's own observation. In the 17th volume of the "Transactions of the Clinical Society of London," 1884, there are published three cases of peritoneal abscesses in children, by James F. Goodhart, M.D. In case first, a spontaneous rupture of the wall occurred; in the two others, the bulging about the umbilicus being observed by the medical attendant, it was incised and the pus evacuated. Case two of this trio is of particular interest to us, as the patient died, and the post-mortem examination disclosed a perforation through the diaphragm into the pleura and lung. It has, therefore, great similarity to the pathological process that took place in our case, and demonstrates clearly the possibility of pus breaking through the diaphragm into the lungs. For this reason, and as an important witness to the correctness of my position, I transcribe it here in detail: "*Case 2.—Peritoneal abscesses; small incision; double empyema; cheesy pneumonia; death.*—A boy, *æt.* 11, was admitted into the Evelina Hospital, on August 29th, 1882. His mother had died of heart disease, and his father was laid up with rheumatic gout. He had had scarlatina and dropsy nine months before, but since that time had been well till his present illness, which began with shivering and vomiting four days before his admission, and which he attributed to getting wet while

out on errands. He came at first under the care of my colleague, Dr. Frederick Taylor, and was extremely ill. He lay on his back with his legs drawn up, his eyes sunken, and his tongue dry and brown. The temperature 101.2° . The abdomen was full, quite motionless on respiration, and very tender. An indistinct mass could be felt on the right side of the abdomen, above the umbilicus. The case, at this time, was exceedingly obscure. Nothing could be detected by the rectum. The bowels were confined; there was no vomiting. The urine contained a trace of albumin. The only decided indications at this time—the abdominal pain and fullness with an indistinct mass on right side above the umbilicus—suggested opiates internally, and poultices to the abdomen. The temperature subsequently rose regularly every afternoon to 102° and 103° , and slowly a diffused dulness and tenderness became more localized in the hypogastric region. The next feature noticeable was a protrusion of the abdominal wall in this region, the flank being resonant, and this part dull. To make a long story short, it may be stated that a thrill appeared later, and the umbilicus became edematous and red.

On September 27th, Mr. Howse was asked to make an incision, and this was done under antiseptic precautions. Thin pus came out in quantity, and was followed by an abundant escape of fetid gas. A long probe passed several inches in all directions into the peritoneal cavity.

The aperture made being only a small one, a loop of silver wire was passed to keep it open. A great quantity of fetid pus continued to be discharged daily, but no amelioration took place; on the contrary, the temperature became hectic, and he became greatly exhausted. So, on the 19th October, fearing that it was not free enough, the opening was enlarged under chloroform. But neither did this relieve him. In four or five days, however, an explanation of the failure offered itself in the fact that the left pleura began to fill with fluid, and an exploratory puncture, on October 24th, withdrew some very fetid pus; an incision was made in the eighth space, and sixteen ounces came away. Although apparently moribund on several occasions, he rallied after this, but within a day or two, dulness and bronchial breathing appeared at the right base. I punctured the pleura, but no fluid came away, and nothing further was done at that time. However, his breathing became more and more embarrassed, indeed, for days together it seemed that he must die, and finding that the tubular breathing was extending up the right side, it was decided to make an incision on that side. We felt the more able to do this now as the left side had in a measure recovered itself, and was doing fair work. The discharge had diminished considerably, and the drainage-tube had been discontinued. An incision was therefore made in the eighth space on November 10th. Only about two drachms of thick curdy pus came away at the time, but the dressings were

quickly and repeatedly saturated afterwards, and it was evident that the pleura contained a good deal of fluid. His breathing was considerably relieved by this measure, but his general symptoms hardly improved; he still suffered from the same hectic fever, and signs of consolidation made themselves apparent in the left lung. He died on the 16th of December.

The inspection showed the following state of parts:

The intestinal coils were matted together by organized adhesions in all parts, but these were neither so extensive nor so thick as one might have supposed would result from general suppurative peritonitis, yet there can be no doubt that such had existed both from the clinical features of the case and also from the other conditions now to be detailed. There were three localized abscesses in the peritoneum, one leading from the brim of the pelvis downwards between the rectum and bladder, into the ischio-rectal fossa; it contained creamy pus in small quantity, and was bounded by the matted viscera (bladder and gut). Another, in similar adhesions, lay between the liver and diaphragm; it opened by a sinus through the diaphragm and pleural cavity into the incision made during life, but had become quite shut off from the pleura; the pus in this was pultaceous. The third was between the spleen and the diaphragm, and opened into the pleura and lung."

The question of treatment is one that belongs to the domain of surgery, and up to the present, so far as I am aware, has only received consideration in the suppurative peritonitis of children. Dr. Baizeau in the article already referred to, expresses himself in favor of following the indications of nature, and as soon as we find the pus pointing in a particular direction by an elevation of a certain portion of the abdominal parietes, to puncture the same with a trocar and give issue to the pus, and keep this issue free by means of drainage tubes. He also advocates the injection of iodine in water: water 300 grams, tr. iod. 25 grams, iod. potass. 1 gram. Subsequently he increased the strength to tr. iod. 50 grams, making the statement that the serous tissues when affected by purulent inflammation seem to lose their normal irritability and become tolerant of irritants even in very strong solutions.

Dr. Goodhart, in the remarks appended to his article discussing the question of treatment, declares himself in favor of free incision.

Of course, where we have nothing more than a spontaneous rupture or the opening of the bulging abdominal parietes by incision, the above plan of treatment, free evacuation of the pus, drainage tubes, and washing out of the peritoneum with antiseptic solutions, may be all sufficient; but where, in addition thereto, we have a perforation through the diaphragm into the lungs, the question becomes more perplexing. Here we have the patient beset with dangers of cheesy pneumonia, empyema, etc., not to say anything of the dangers of prolonged suppurative process; and the question

presents itself to us, shall we remain mere spectators of the efforts of nature to cure the patient, contenting ourselves with aiding the *vis medicatrix naturæ* in a passive sort of way; or shall we interfere actively?

That the dangers here alluded to are not fancied is well illustrated by case II. here quoted, of Dr. Goodhart. Speaking of the opening of hepatic abscesses into the bronchial tubes, Frerichs says, "But the curative process is often unsuccessful; the difficulty of expectorating the discharge increases more and more; the larger the cavity is, the more its walls are kept asunder by adhesions, and the more extensive is the destruction of the diaphragm. Here death ensues, under symptoms of hectic fever." And certainly the dangers are not lessened by an opening into the pleura.

Considering all these things, it occurred to me, as already stated in the history of the case, that if an opening were made through the vagina into the peritoneum, and drainage-tubes inserted, the pus would naturally gravitate downward and find its exit there, and thus all danger be averted from the lungs, pleura, and diaphragm. That the idea was not so very chimerical is well shown by the case reported in *résumé* by Dr. Baizeau, and here mentioned, where nature made such an opening; and I believe nature is a good guide for us to follow.

Or would it be better to resort to the radical method of Mr. Lawson Tait, of opening the abdomen and washing out the peritoneum and parts thoroughly? The results obtained by Mr. Tait in the treatment of suppurative peritonitis are so favorable, nine cases and all recovered, that, in view of this fact, and that the patient by this method is quickly rid of her malady and all its difficulties, I should prefer this method to any other. It is true that our patient recovered without much being done, but if we carefully study Dr. Goodhart's case, we will find perhaps that our case was exceptional.

DR. THAD. A. REAMY said, that he recalled the case to memory during the reading of the essay, as one he had seen in consultation with his friend Dr. Illoyay.

As stated by the essayist, he had been requested to make an opening through the roof of the vagina for the purpose of evacuating pus supposed to be contained in the peritoneal cavity. The speaker had declined such a procedure because he could find no evidence of pus or other fluid at any point within the pelvis.

He regarded the opinion of the essayist, that the pus accumulation was primarily in the peritoneal cavity, as well sustained by the fact that the abscess first pointed at the umbilicus. Suppuration at this point is regarded as pretty conclusive that the accumulation is in the peritoneal cavity. Suppuration pointing in other regions of the abdominal wall would indicate the connective tissue as the source of trouble.

There was no evidence, at the time the speaker saw the case, of metritis, parametritis, or perimetritis, although, since this case had followed parturition, he thought it extremely probable that it

had had its origin in the puerperal state. He did not believe that there was any connection between the pus accumulation in the peritoneal cavity, and that which had pointed on the left side just below the rib, and from which pus was being discharged when he saw the case. Perforation of the diaphragm from pus accumulation, when bound down by adhesions, may occur, but pus accumulation in the peritoneal cavity, sufficient to perforate the diaphragm by upward pressure, could not occur while drainage from the umbilical region was going on, as in the history of the case reported. He was much more inclined to the opinion that the perforation through the diaphragm, if it existed, had taken place from above, as the opening just below the floating rib on the left side had occurred long after drainage had gone on from the umbilicus.

Pus will rapidly perforate almost any tissue when it is bound down by adhesions. Under such circumstances it may perforate the intestine, diaphragm, the uterus, the bladder or vagina; but to do this there must be adhesions pocketing the pus.

The speaker, knowing the distinguished ability of the essayist in physical examination of the chest, would entertain a counter opinion from his, with great diffidence. He must, nevertheless, dissent from the view of the essayist that there had been no inflammation within the thoracic cavity on the left side. The essayist himself had reported that fluids injected into the sinus on the left side could be tasted by the patient almost at once. Moreover, the patient expectorated pus. This proved an opening into a bronchus.

Alonzo Clark has called attention to the fact that localized peritoneal abscesses, and those that are post-peritoneal, may pierce the diaphragm and produce empyema, or by previous adhesion of the lung to its upper surface find a way into a bronchial tube, and so the pus is expectorated. It is possible that this would explain the upper abscess with its sinus. The speaker must, however, express his belief that the upper abscess was secondary.

Sedillot has shown that in cases of pyemia the lung is implicated in 99 per cent of all cases.

Billroth found abscess in the lung in 75 out of 83 cases of pyemia. Non-infectious emboli, according to the same authorities, occur in the lung in about the same proportion of cases and may, where there is depravity of the system, be followed by a purulent condition of the infarct, which is an abscess.

The speaker considered it extremely probable that this was the source of the upper abscess, notwithstanding so much of the lung may have been clear at the late date, when examination was made by the essayist, as to elude detection. He had no doubt, as already intimated, that the primary source of the whole trouble was puerperal sepsis.

Since 1869, about the time when Coze, Feltz, and Mayerhofer discovered micro-organisms in cases of puerperal fever, additional facts obtained by competent observers in different countries have pointed in this direction, until now there are few who will deny the important rôle that these germs play in puerperal peritonitis.

The case under discussion no doubt arose primarily from this source. These germs could easily enter the peritoneal cavity from the interior of the uterus, and the general circulation through the lymphatics.

As to treatment and results in the case reported, he believed

that the recovery of the patient was due to conservatism, refraining from active surgical procedures.

DR. PALMER thought there were some obscure points in the case which could not satisfactorily be cleared up, because the patient recovered. There are few post-mortem examinations ever made which do not tell us something more, or something different, from what we had supposed.

The reading of the report had impressed him that the case was in the beginning one of general, abdominal peritonitis. That much pus formed, so as to create a distinct abscess, was an exceptional occurrence after peritonitis; usually it is pelvic cellulitis which is so followed, if at all, after delivery. But the nature of the symptoms and physical signs left no doubt that the inflammation was a peritonitis. Subsequently the peritonitis appears to have been more localized, and the pus accumulations became encysted, as it were, by provisional adhesions. This cavity emptied itself partly through the first opening, not far from the umbilicus, which afterwards closing, another opening, not far distant, but further up, was made. Continued suppuration, with imperfect drainage, was now followed by further upward extension with perforation of the diaphragm. There could be almost no doubt whatever about the perforation of the diaphragm, and that this took place from below upwards. The presence of the abscess cavity first below the diaphragm, and the subsequent discharge of pus above that line, with symptoms of a communication between the two, would be evidence almost positive. To further corroborate this view, he was informed that Dr. Miller, who was present and had seen the patient at one time, had some facts to present.

DR. B. F. MILLER recognized, by the history of the case just reported, that he had examined the same patient in consultation with Dr. A. Rosenfeld three years since, at the Jewish Hospital. There existed at this time a single orifice from which a slight discharge escaped. As nearly as could now be recalled from memory, the opening referred to was situated left of the median line about four inches, and three inches below the inferior border of the ribs. A sound with a long curve was employed to explore the fistulous track which was found to range in an oblique direction upwards and backwards beneath the ribs to a depth of eight inches, which did not appear to reach its remote terminus. The location, direction, and length of this sinuous canal pointed most clearly to a communication with the thoracic cavity. From the generally unpromising condition of the patient, no hopes of a recovery were entertained. Local treatment, however, was advised to be continued, the cavity to be washed out with dilute tr. iodine carried deep into the passage by a long-pointed syringe, the nozzle to be carried so as to adapt itself to the line of the sinus. To his astonishment the patient did recover, as shown by the paper just presented.

DR. GILES S. MITCHELL said the case reported was not only interesting, but rare. Medical literature furnishes the recorded histories of but few such cases. Puerperal peritonitis is one of the most frequent complications of puerperal fever, but rarely occurs independently of it. Ordinarily, when it does so exist, the uterus and adjacent connective tissue are tender on pressure.

We have, however, in the case reported, a circumscribed abdominal peritonitis developed on the eighth day after delivery, with-

out tenderness in and about the womb. That the diaphragm was perforated and a communicating sinus existed between peritoneal abscess and lung seems evident.

One would suppose, however, that gravity would have directed the pus in the opposite direction.

The speaker thought that, in the vast majority of cases, puerperal peritonitis could be aborted by the early application of ice to the abdomen and large doses of opium internally.

DR. ILLOWAY said he was under great obligations to Dr. Miller for his statement; it proved the correctness of the essayist's diagnosis and gave it the certainty of an anatomical demonstration. He only regretted that he did not know earlier that the gentleman had seen the case.

At the annual election, held the same evening, the following officers were elected for the year 1886:

President: DR. J. L. CLEVELAND.

Vice-President: DR. G. S. MITCHELL.

Recording Secretary: DR. WM. H. WEINING.

Corresponding Secretary: DR. J. G. HYNDMAN.

Treasurer and Librarian: DR. GEO. E. JONES.

TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF LONDON.

Meeting, Wednesday, January 13th, 1886.

J. B. POTTER, M.D., F.R.C.P., *President, in the Chair.*

THE PRESIDENT stated, with regard to Dr. Heywood Smith's conduct in the Armstrong case, that the council, after careful and anxious consideration, had come to the conclusion that they were not justified in recommending the Society to put in force the law which provides for the removal of a Fellow. He then read the following resolutions of Council:

"Having heard Dr. Heywood Smith's explanation of his conduct in the Armstrong case, it is resolved that the council emphatically disapproves of his action in that case. That this resolution be read from the chair at the next meeting of the Society."

The following specimens were shown:

Ruptured Uterus, Dr. Drage.

Section of Cancer of the Body of the Uterus removed by Enucleation, Dr. Galabin.

The following papers were read:

ON THE PRODUCTION OF THE SHAPE OF THE OBLIQUE PELVIS OF
NAEGELE.

By DR. HERMAN.—The author said he did not propose to discuss the nature of the disease resulting in the pelvis, but only the reason of the change of shape. He showed by measurements that the disease (whatever its nature) produced dwarfing of the sacrum, and destruction of part of the ilium on the affected side. He did not think that the explanation of the pelvis put forward by Matthews Duncan, viz., that it was the result of ankylosis of the sacro-iliac joint, was an adequate one. There were three main forces which produced the shape of the pelvis: (1) The body-weight, (2) The action of muscles and ligaments, (3) The innate tendency of the bones in their growth to assume a particular shape. The action of muscles and ligaments he believed to be far less effective in modifying the shape of the pelvis than the body-weight; viz., in the case of the Naegele pelvis they did not materially differ on the two sides. The most powerful force he believed to be the tendency of the bones to grow into their proper shape in spite of mechanical influences. In the Naegele pelvis, the bones retained this power; and that was an essential difference between the Naegele pelvis and pelvises such as the rickety and osteomalacic, in which the bones were rendered by disease abnormally flexible. The Naegele pelvis was one of the simplest of all pelvic deformities, because in it we had little to deal with except altered distribution of the body-weight. This was carried by the iliac beams on to the femora at angles differing on the two sides. The author believed that, as had been shown by Dr. Champneys (in opposition to what was generally taught), the effect of the pressure of the femora was to carry the acetabula upwards and outwards. He adduced in support of this view the evidence of experiments which showed that when the femora were pushed upwards in a parallel direction, the pubic bones were divaricated; and that of pelvises wasted from disuse of one side, in which the acetabulum on the side on which the unopposed pressure of one femur was exerted was carried upwards and outwards. The shape of the Naegele pelvis he believed due to the differences in the effect of the pressure on the two sides. The outward pressure was exerted to greater advantage on the sound side; therefore the acetabulum was on this side carried outward, and the symphysis pubis dragged over to that side. The iliac portion of the pelvic brim was less compressed on the sound side of the Naegele pelvis than in the healthy pelvis, owing to the pressure of the femora being less directly upwards. The author adduced measurements, in support of these assertions. According to his view, the lessened breadth of the sacrum and the iliac bone on the ankylosed side was the essential change, and not the ankylosis. In support of this view he cited cases in which oblique deformity resulted from atrophy of the sacrum without ankylosis; and also cases in which,

with ankylosis and oblique deformity, the degree of obliquity was proportionate to the breadth of the sacrum. Lastly, he showed that the shape of the transversely contracted pelvis of Robert was explicable on his view.

DR. GALABIN said that the action of the body-weight on the posterior sacro-iliac ligaments, exercising force on the iliac beam and tending to evert its lower extremity, would be abolished if the joint were ankylosed. The body-weight and the pressure of the femora must act vertically; but, besides this, there was an inward pressure of the femora and a corresponding outward pressure of the pelvis upon the femora, due to muscles. He agreed with the paper of Dr. Champneys on this subject, quoted by the author, and had taught the same views himself. The outward thrust of the lower end of the iliac beam could not be subjected to the parallelogram of forces, as the author had done; the important point was the relative length of the arms into which the sacral beam was divided by the incidence of the body-weight. He thought that the study of certain pelves showed that, on the whole, inward pressure at the acetabula predominated. He agreed, however, with the author in one thing, viz., that the obliquity of the Naegele pelvis could be accounted for by other causes than the ankylosis, and that the deficiency of the sacral wing was more important. If, for any reason, the acetabulum and tuber ischii were displaced towards the middle line, the forces causing obliquity acted with constantly increasing force. There was one peculiarity of the shape of the Naegele pelvis which supported strongly Dr. Duncan's theory of the leverage exercised through the posterior sacro-iliac ligaments: this was the absence of curvature at the posterior end of the innominate line on the affected side. In the scoliotic pelvis and in the oblique pelvis from disease of one leg, the posterior part of this line is *more* curved than usual; in the Naegele pelvis, *less* curved, and this can only be accounted for by the ankylosis preventing the action of the iliac beam on the affected side.

DR. MATTHEWS DUNCAN alluded to the increasing difficulty of making progress as the subject advanced. He was himself indebted to the work of Champneys, particularly as correcting his former view of the direction of the upward push of the head of the femur in standing. Champneys showed that the pressure, as unaffected by the action of the adductors, was not upward and inward. The ultimate result, as Galabin pointed out, of the pressure, as modified by the adductors, was upward and inward. He hoped to see Dr. Galabin's speech fully reported, and though he would not now venture a criticism on so difficult and complicated a subject, he had no doubt that, when the whole debate was in print, there would be further work by himself or others. He would say, in passing, that he regarded the Naegele pelvis as rather a malformation than as the result of disease; it was congenital, and might be due to deficiency of the ossific centres. The discussion at present should be confined to the normal pelvis and its modification in the pelves of Naegele and Robert; the introduction of others plunged one into an insoluble mass of complexities, while these pelves were well marked and uniform, and as to their shape, congenital character, and absence of bone disease, there was unanimity. He was still inclined to believe that the absence of one or both sacro-iliac joints was the great fac-

tor in these pelves. In the other morbid pelves there were several factors of cardinal importance, whose influence it was difficult to ascertain and weigh.

DR. CHAMPNEYS said that Dr. Herman's interesting paper had not succeeded to his mind in finally settling the question as to the essential cause of deformity in the Naegele pelvis. The whole subject of pelvic deformities was most difficult, and the great facts finally settled were few. As regarded the assertion that ankylosis of the sacro-iliac joint could not prevent bending of the iliac beam, he could conceive that, besides the objection brought forward by Dr. Galabin, another might be urged, namely, that a wooden beam laid across a wooden block might not be so easily bent if glued to the block as if not glued. Again, with regard to the statement that in the Naegele pelvis the bones retain their power of growing into their proper shape, we must remember the abolition of action caused by ankylosis and its effect on the nutrition of the component bones. In the pelvis of a child in which disease of the sacro-iliac joint had produced oblique deformity, which he had brought before the Society in a paper, the whole side of the sacrum as far as the coccyx was dwarfed on the side of the ankylosis. Whatever disorders the equal balance of the "couple of forces" produced by the downward pressure of the body-weight at the sacro-iliac joint, and the upward pressure of the heads of the femora (which normally falls outside the line of action of the body-weight) on each side, tends to a progressively increasing disorder of the balance of the two sides, as Dr. Galabin had just remarked, and as he had himself set forth in the paper alluded to. Moreover, as he had then explained, the overweighted side is naturally the side of the greater muscular action, including increased pressure of the femora and increased muscular, and therefore osseous nutrition.

To Dr. Galabin and also to Dr. Herman he would say that in his paper he endeavored to prove (1) that the action of gravity *must* tend to *evert* the distal end of the iliac beam (this being directly contrary to the accepted view), (2) that the "inward pressure of the femora, which undoubtedly exists in the malacosteon and other pelves, could not be due to this action, but could only be accounted for by the action of muscles. As to the question whether outward or inward pressure predominated, he was not at present prepared either to agree or disagree with Dr. Galabin. No doubt, in a softened pelvis, inward pressure *eventually* predominated, but he thought more than one explanation was possible.

DR. WALTER GRIFFITH said that until the question as to the cause of the sacro-iliac ankylosis was settled, the effects of it were but to be guessed at. He referred to a case of oblique deformity described by Dr. Sinclair in the *Dublin Medical Journal* for 1855, as being exactly like those described by Naegele, and due to disease of the joint in childhood. The study of four pelves with extroversion of the bladder showed great differences as regards the shape of the pelvis. Cases of extreme scoliosis were found with little or no obliquity of the pelvis. He asked how it was, according to the explanation given by previous speakers, that the pressure of the femora stopped short when the side of the pelvis was straight, and when it ought to act at the greatest advantage. He believed the whole deformity was congenital.

DR. HERMAN, in reply, did not think that the fact of ankylosis of the sacro-iliac joint would affect the shape of the part of the ilium between that joint and the acetabulum. His grounds for rejecting Duncan's theory of the Naegele pelvis were, that ankylosis was found without the oblique deformity, and the deformity without ankylosis, and that the degree of obliquity was proportionate to the degree of lateral diverging of the sacrum. He differed with Drs. Galabin and Champneys in thinking that no comparison could be drawn between the Naegele and the scoliotic and malacosteon pelvis, on account of the softening of the bones present in the two latter. He thought that the effects of use and disuse of a limb and of vascular supply are comparatively small.

A CASE OF GASTROTOMY FOR EXTRAUTERINE GESTATION IN WHICH
THE PLACENTA NEVER CAME AWAY.

By DR. BRAITHWAITE.—In this case a full-grown fetus, which had been dead about three weeks, was removed from the abdominal cavity. The placenta fitted on the uterus like a cap, and spread posteriorly on to the neighboring parts. The operation was done aseptically, the wound closed, except at its lower part, where the funis was left hanging out. The recovery was perfect though slow, the placenta never came away, except a morsel about twenty grains in weight on the sixth day. The placenta must have been slowly absorbed, and in this the case is unique.

MR. THORNTON referred to the extraordinary description, and asked Dr. Braithwaite if some mass representing the atrophied placenta was not still to be detected. He had shown to the Society a placenta undergoing remarkable changes after a similar operation, but its condition was, by no means suggestive of atrophy.

DR. BRAXTON HICKS remarked that, whether the placenta had been absorbed or encysted, the fact was of much importance, for he had for some time thought that it would be best to treat the wound antiseptically, and close it, leaving in a drainage tube. In four of six cases on which he had operated, however, the sac was already putrid.

DR. CHAMPNEYS thought that Dr. Braithwaite only meant that the placenta had not come away, and in this respect his title was more accurate than his description; it might quite possibly have grown in the site, receiving progressive nutrition. He intended, when occasion offered, to strip off the amnion if possible from the interior of the sac, and to wash out the vessels of the funis with boroglyceride; this would be a powerful aid to prevent sepsis, and could do no harm if absorbed.

DR. GRAILY HEWITT believed that the placenta might disappear. The vascular connection is very intimate, and it would probably shrink up, and be for the most part absorbed.

ABSTRACTS.

1. Apostoli and Doleris: A Method of Treatment of Peri-uterine Hematocele by means of Negative Galvano-Puncture.—At a recent meeting of the *Association Française pour l'Avancement des Sciences*, Apostoli described this method as follows: The chemical-caustic action of the continuous current is utilized in making an opening into these tumors. The opening thus made is, in character, a non-retractile fistula, with tendency to remain open, and with adhesions between the pathological cavity and the external mucous membrane. The depth of the fistula varies with the intensity of the current strength. The advantage of this method is that, on account of the adhesions formed, the danger of opening is lessened, and the cicatrix left by the negative eschar is slight and non-contractile. A further after-effect of this method of utilizing the chemical caustic action of this current is that the nutrition of these pathological cavities is modified, leading to rapid retrograde metamorphosis. Apostoli has treated one case by this method, and the excellent result obtained leads him to the following general conclusions: The method is safe, quick in action, and modifies the usual prognosis. The method is, in action, double—it has a surgical effect and a medical effect. It is applicable alike to hematocele, abscess, fibromata, interstitial myomata, extrauterine cysts. E. H. G.

2. Donat: A Case of So-called "Pseudomyxoma Peritonei" (Werth) (*Archiv f. Gyn.*, XXVI., 3).—In the *Archiv f. Gyn.*, XXIV., 1, Werth described a condition of the peritoneum following on rupture of ovarian cysts, and gave it the name of "pseudomyxoma." D. has recently met with a case where the same condition obtained, reports it in full, and criticises Werth's deductions and name given to the condition. D.'s case, in its essentials, was similar to W.'s. The patient, however, recovered. It concerns a thin-walled glandular ovarian cyst with colloid contents, which ruptured and gave exit to its contents into the peritoneal cavity. The peristalsis of the intestines disseminated the colloid matter over the peritoneum, and there resulted peritonitis. The name "pseudomyxoma" D. contends is erroneous. The result of the contact of the colloid matter with the peritoneum is simply an irritative peritonitis, to which, if any special name is to be given, that which describes the affection—"foreign-body peritonitis"—is applicable. That he had not to deal with a myxomatous affection of the peritoneum, D. conclusively proved by analysis, chemical and microscopic, of the inflamed serous membrane, and by injection of the gelatinous deposit into animals. D.'s case is further interesting from the fact that operation was followed by recovery, all other cases, according to W., with the exception of a case reported by Wetzel, terminating unfavorably. E. H. G.

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ORIGINAL COMMUNICATIONS.

ON A PUERPERAL-FEVER MICROBE AND ITS HABITAT IN
NEW YORK.

BY

E. NOEGGERATH, M.D.

(With Chromo-lithographic Plate.)

MRS. L. G., 19 years old, married in November, 1883, passed the summer of 1884 in a country-house on the Hudson, and appeared to be in a perfect state of health on the date of her arrival in New York, by the middle of September.

I saw her a few days later, and found that she complained now of loss of appetite, headache, and other symptoms of catarrh of the stomach, which were gradually relieved by the use of chlorine water.

On the 20th of September, I had occasion to examine the urine, and found it loaded with albumin, but a microscopical examination, repeated from time to time, revealed nothing which pointed to an affection of the kidney.

Although she was at once ordered to take skimmed milk, to the exclusion of all other food, the urine showed traces of albumin for at least four weeks afterwards. Her pulse was always between 60 and 70, and the axillary temperature seldom above 97°.

On September 25th, she had a severe attack of diarrhea, with very frequent passages of a matter devoid entirely of bile. This was overcome by a large dose of calomel.

On the 26th, labor pains commenced slowly by 4 o'clock in the

morning, and the child was delivered in the first position at 6½ o'clock P.M. Twenty minutes later, the after-birth came away with the aid of Credé's method. Uterus contracted but slowly under constant kneading with the fingers.

As regards the management of the confinement, I will state that carpet, walls, and furniture had been disinfected by a spray of bichloride of mercury, that all of the bed-linen and clothing had been kept for a while in a strong solution of carbolic acid. Several injections of a 0.5% solution of corrosive sublimate were given during labor, and the vagina washed out by the same liquid, after the placenta had been removed.

About an hour and a half later, while the discharge from the vagina appeared to be normal in quantity, the patient became restless, and the pulse weaker.

The disinfected hand was now introduced into the vagina, where it encountered a large clot of blood, which extended far up into the uterine cavity. Its removal was followed by an injection, first, of hot water, and afterwards of a moderate quantity of the one-half-per-mille solution of bichloride of mercury.

After this, Mrs. G. passed a comfortable night. On the following day, pulse and temperature were normal.

On the third day, however (Sept. 28th), the temperature began to rise from 99½° at 8 A.M. to 102½° at 2 P.M. The temperature was taken in the axilla, for fear of carrying septic material into the vagina. On the few occasions, however, when the thermometer was placed into the vagina, for the sake of comparison, it was followed by the use of the same disinfecting injection. The difference proved to be just four-fifths of a degree.

Taking this in consideration, and the fact that the normal temperature of the patient was 97°, the above-quoted rise up to 102½° in the axilla had the significance of an internal temperature of 104½° under ordinary circumstances.

She was ordered to take 10 grains of salicylate of soda, with 2 grains of quinine, every hour; an injection of corrosive sublimate was given twice a day. Towards 11 o'clock P.M., the temperature had fallen to 99½° again. At this time, she complained of headache and slight pain in the right side of abdomen, near the uterus; the latter was not well contracted.

During the following days, the temperature rose and fell with a certain regularity, and the fever assumed a thoroughly remittent type. Between 6 and 9 A.M., it was 98°-98½°, rose during the day until it reached its climax by 5 and 6 o'clock P.M. (from 99 to 100½°) to go down to 98½° by 9 or 10 P.M. This fever lasted during the entire month of October and part of November. An attempt to rise, at the end of the third week after confinement, had to be abandoned; it was followed by a slight chill and rise of temperature. Ever since the 20th of October, Mrs. G. took one dose of 20 grains of quinine after the evening rise of the temperature, besides her smaller doses during the day, which latter were dropped during the hours of remission. Although

the fever-heat, from the record of the thermometer, never reached any considerable height, and although the pulse never rose above 104 in the minute, Mrs. G. gradually began to feel very weak and exhausted, so that at times I felt apprehensive regarding the final issue of the case.

The discharges from uterus and vagina were kept clean by frequent vaginal and occasional intrauterine injections of corrosive sublimate.

From the 6th to the 9th of October, no intrauterine injection had been given, because the temperature was comparatively low. On that day, a pretty large clot was expelled from the womb, which had a slight odor, and which I took home for examination.

On this occasion, I made a careful examination of the uterus and found that its posterior wall, as far as it could be touched upwards, was considerably thickened and hardened by recent inflammation, its inner surface felt raw, as if the formation of the lining membrane had been retarded. The touch from outside, as well as the injections which were made during the following four days, occasioned a considerable amount of pain. I will here remark that this uterine lymphangitis was going on increasing during the next week, when it gradually began to diminish.

On the lower half of the left labium minus, and on the edges of a superficial rent in the posterior wall of the vagina near the entrance, was deposited a thin, yellowish infiltration, which slowly healed under treatment with iodoform.

The peculiar features of this species of puerperal fever were:

1st. An invasion of a septic element, notwithstanding the most complete aseptic management of the confinement that could be imagined.

2d. Long duration and obstinacy of a moderate amount of fever against early, persistent, and energetic internal and local treatment.

3d. Its remittent, almost intermittent character.

4th. The inflammatory action of the poison upon the tissue of the uterus.

5th. The absence of deposits in remote organs, notwithstanding the length of time the patient was under the influence of the fever germs.

The clot which was expelled from the uterus looked fresh, but smelled as if in beginning decomposition. Upon examination with the microscope, it was found to contain all through its tissue such an amount of a certain form of a bacterium, that it was exactly a pure culture (*Reincultur*) of the microbe which I shall describe hereafter.

Now, if I consider this microbe the cause of the fever in question, I do so:

1st. Because blood-clots expelled during the course of puerperal fever do contain, if any, the identical microbe which is found in abscesses developed in other parts of the body, *i. e.*, the specific cause of the fever in each individual case.

2d. Because this microbe belonged to the class of bacteria, called saprogenes, with which corresponds the type of fever that I have attempted to describe.

3d. Because the patient was under its influence before and during confinement, as I will show hereafter.

The microbe in question was a true bacterium; its length, although somewhat varying in size according to the medium on which it is raised, is between a large coccus and a bacillus. It is a short rod, separated in the middle by a slight constriction just visible with a very high power, which gives it the appearance of two oblong cocci joined closely together. Sometimes two or three rods are joined in one. Fig. 1 represents a number of these bacteria; the artist could not distinguish the two sections of the rod; the individuals near *a* give their character better than any other. It is about one-quarter larger than bacterium termo.

When transplanted in meat-peptone gelatin, it develops a culture of a very characteristic nature. It rapidly liquefies the gelatin in such a manner that on the third (sometimes fourth or second day, according to the temperature of the room) about $1\frac{1}{2}$ centimetre of it is dissolved in the upper part of the test-tube throughout its entire thickness. (See fig. 4.)

Below this spherical ring of liquefied gelatin, it grows in the shape of a cone which points downwards, and near the apex is found the yellowish-gray mass of the bulk of the microbe proper, the whole resembling in shape very much that of a comet with a large nucleus. It grows very rapidly until it has reached the bottom of the glass. Along with the liquefaction of the gelatin goes its decomposition; it gradually develops a very intense odor of putrefaction, resembling a mixture of old cheese and foul urine.

This comet-shape is best obtained by sinking the infected platinum wire at least two inches deep into the gelatin. Occasionally, the liquefaction follows the nucleus in the shape

of a cylinder, being as wide below as near the opening of the test-tube.

On potatoes it develops very slowly, eating its way downwards to some extent along the centre, and expanding laterally in the shape of uneven waves and flames, until it has covered the entire surface. The color of the potato assumes a dirty yellow hue, while its grain is very little altered. On the third day, it has an intense smell of very ripe Limburg cheese.

The experiments on animals were necessarily restricted. They have until now been confined to rabbits.

First, I injected a hypodermic syringe of the stinking liquefied gelatin with the microbe, under the skin of a black rabbit. It produced absolutely no change in the healthy condition of the animal. Half a syringe of the same liquid was injected into the abdominal cavity, with the same result.

After a few days, I shaved off the hair from the back of the animal, and cut away a piece of skin of about one inch square. This was dressed for two days repeatedly with cotton soaked in the liquid; the wound healed under it as if protected by an antiseptic bandage. I now took another rabbit, and proceeded to establish conditions somewhat similar to those of the puerperal uterus, large, open veins, occluded by clots.

I tied a small rubber tube around the base of the ear, and injected a fraction of a drop into the aural vein. The ear soon began to show symptoms of hyperemia and congestion. After a very short while, the rubber was removed (Sunday, 12 o'clock.) By 3:30 P.M., the ear seemed to be paralyzed; a very considerable swelling, heat, and redness was noticed along the course of the aural vein, and a large number of small blood-vessels developed in the neighborhood of the point of injection. Temperature of rectum now 104° . At 7 P.M., temperature $104\frac{2}{3}$; lower portion of ear more swollen and red. An incision into the inflamed tissue gave issue to a sanguinolent transudation which under the microscope showed nothing but blood, with a considerable increase of leucocytes. Ear collapsed very little after the incision, showing that it was not a hemorrhage. On Monday, the ear is more swollen, but it can be moved upwards again. At noon, temp. 103° —another incision, with the same result; at 9 P.M., temperature $103\frac{2}{3}$. On Tuesday, the temperature ranged between $102\frac{2}{3}$ and 103° , ear somewhat less swollen. No fever on Wednesday. The

swelling persisted for about a week, leaving at the point of injection a hard, solid cicatricial tissue, around which small blood-vessels were developed to quite a large extent; pus could never be found in the specimens examined.

The condition in the uterus of Mrs. G. must have resembled very much that of the ear in this rabbit.

A very important feature of our microbe is its very great vitality.

My investigations were interrupted in December, 1884, because I had to attend, in January and February, to cases of confinement. I therefore put away a test-tube containing a fully-developed culture outside the house, without any covering except the glass jar in which it was kept. There it stood all through the intensely cold winter of 1884-85, freezing and thawing up, and freezing stiff again. I opened it in the beginning of this year, and I was able again to raise at once a perfectly normal culture from it. It is therefore apparent that our bacterium develops a *Dauerform*, a seed, which enjoys a most remarkable vitality. Another characteristic of this microbe is its volatility and ubiquity. While preparing my gelatin last winter, I had the greatest possible trouble to keep it free from contamination. Of the great many parasites that I found in the air of my office on exposing fresh plates of gelatin, I very rarely caught one in my test-tubes, but this one made its appearance every once in a while, and spoiled a large amount of my material.

The fact that puerperal fevers are almost exclusively produced by one or another form of a coccus, most often streptococcus, gives this case a certain interest. (Fig. 3 represents the ordinary puerperal streptococcus.)

Dr. Eugene Fraenkel has lately given the description of a similar puerperal fever bacterium in the *Deutsche Medizinische Wochenschrift*, Nos. 34, 35, 1885.

His bacillus, however, differs from the one just described in certain well-marked characteristics.

The culture in gelatin has not the comet-form, but develops along the area of the infection in small globules the size of poppy seed, and rises above the level of the gelatin in button shape. It does not liquefy nor decompose the gelatin. It, however, produces abscesses in remote organs, a feature usually observed only along with an invasion of cocci.

The floor on which the patient lived, from September on, had

not been inhabited during the summer, and most of the house had been empty, except the quarters for the servants.

The bedroom, large and airy, communicated by a folding door with two wash-closets, and behind these, the library was located.

As soon as I found this condition of things, I ordered these wash-basins not to be used. Several days before confinement took place, I closed all their openings with rubber-stoppers, and filled the whole basin with powdered charcoal. I was led to these precautions because I detected a smell emanating from the basins, evidently not sewer gas, but a smell very much like that of mice.

But even after all this had been done, the air in the rooms did not seem very pure. But since we had plenty of time before the beginning of labor, I hoped that extensive airing of the rooms would remove all possible danger from this focus of possible infection.

Things, however, took after all the turn which I have endeavored to describe.

Late in October, I removed four of the rubber stoppers, as well as some scrapings from the inside of the central stopper of one of the wash-basins, and placed them on gelatin.

Soon a very lively vegetation began to develop around them. In transplanting a mixture of all of these growths on gelatin plates, thus trying to obtain a separate culture of whatever microbes there might be developed, I obtained :

1st, a large amount of long, slender bacilli, somewhat resembling in shape that of tuberculosis (see Fig. 2, *a*).

2d, a large diplococcus (Fig. 2, *b*).

3d, a coccus in clusters or in chains (Fig. 2, *c*).

4th, bacteria, small rods of several sizes (Fig. 2, *d*.)

On several portions of the gelatin-plate I found, after three or four days, that it showed signs of liquefaction. From these parts I now infected my test tubes, and thus was enabled to find our identical microbe among the many that lived inside the water-pipes.

The family, which had lived in the house before, had not gone through any remarkable quantity or quality of sickness. But now things had changed. The fact that the basins had not been used during the hot summer, had transformed most or some of these inhabitants into dry dust, which was swept again

and again into the air above. Now, when the rooms began to be used again, the air was full of these minute particles. They now were inhaled and swallowed in large quantity, pervaded all the clothing, and probably settled down all over the body.

If you consider the great vitality and volatility of this microbe, this explanation appears natural; and it is my opinion that the obstinate catarrh of the stomach, the peculiar form of diarrhea, and the presence of albumin in the urine were already the first signs of invasion.

The life history of this parasite enables us to classify it among the saprophytes, and we must call the fever described, not as symptomatic of septicemia, but of sapremia.

This distinction is now fully established, as existing in fevers occurring during the puerperal state, especially through the researches of Duncan and Ogston.

Sapremia is simple putrid infection, not a poisoning from an organism which goes on developing in the blood, but a reception into the circulation of decomposed lymph and gases.

The organisms which produce sepsis and pyemia have probably nothing to do with putrefaction at all.

I will finish with a practical conclusion.

Before and after the fever, the present owner of the house had one of our best experts to examine the plumbing work, and he received the satisfactory assertion that it was the best that could be had in our day; and still the house was poisoned from the water-pipes.

Consequently, a so-called good plumbing, from an engineering point of view, is no guarantee of a sanitary condition of a dwelling.

I do not wish to leave the impression as if sapremic fever was always of a benign type, as in this case it seemed to be. Although it is true that, with the same height of fever, the same depression of the system, patients suffering under the effects of sapremia do much more frequently recover than those under the effect of septic poisoning, we do meet with cases which run a fatal course under the most judicious treatment. And what would have become of *my* patient if not treated properly is an open question.

OVULATION DURING PREGNANCY.¹

BY

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(With three Illustrations.)

PREVIOUS to the time of Baer, it was generally held that ovulation was the result of fecundation, that is, that the ovule was only brought to maturity and given off after its impregnation. Baer discovered that the Graafian follicle was only a cyst which held the true ovule, and before him, Power had shown that these follicles matured and ruptured periodically. Other investigators took up the subject, prominent among them being Negrer, Raciborski, Bischoff, and Pouchet, who maintained, and indeed demonstrated, the doctrine of spontaneous ovulation. By spontaneous ovulation was meant ovulation occurring without the influence of fecundation. The periodicity of ovulation being established, it became an easy matter to connect it with another periodic function, viz., menstruation. The points of resemblance were strongly dwelt on, and a causal relation between the two functions readily established. The ovular theory of menstruation, in one shape or another, has been accepted until quite recently.

To Prof. Goodman, of Louisville, belongs the honor of first formulating the Cyclical Theory of Menstruation—a theory which better satisfies all known conditions than any other yet promulgated, and which entirely separates ovulation from menstruation. Prof. Goodman's conclusions, as given in the *AMERICAN JOURNAL OF OBSTETRICS*, vol. XI., p. 686, are as follows: "1st. That menstruation is the result of a general condition of the vascular system, the local manifestations occurring, as a rule, in the generative organs, from the fact that they are especially adapted, anatomically and histologically, for their display.

"2d. That the general disturbance of the vascular system is of a nature to elevate the blood pressure throughout the entire organism, and arises from a contraction of the muscular coats of the arteries and veins.

¹ Read before the Cincinnati Academy of Medicine, Dec. 21st, 1885.

"3d. That in all probability, when the tension of the vascular system reaches its highest degree, activity is imparted to certain muscular fibres, which, from their collocation and only possible function, must be regarded as accessory to the vaso-motor muscles, and through their co-operation the local phenomena are intensified."

Here is a theory of menstruation which satisfies all conditions, and which entirely ignores ovulation as a cause. This subject of the cyclical or wave theory of menstruation has been further elaborated by Dr. Mary Putnam Jacobi, of New York, and by Prof. Stephenson, of Aberdeen.

Dr. Jacobi, in her essay on "Rest for Women during Menstruation," has called attention to the existence of a peculiar temperature curve, which marks the various steps in the menstrual cycle.

In a series of articles running through the AMER. JOUR. OF OBST. for 1885, Dr. Mary Putnam Jacobi has still further developed the cyclical theory of menstruation. In the March number, p. 278, she says: "The summary of the foregoing considerations is as follows: The essential part of the reproductive organs (as distinguished from the sexual) is a tissue which may be best known as the *germinative membrane*. It consists of three continuous parts; the endometrium lining the uterine cavity above the os internum, and distinguished from that of the cervix; the cortex of the ovary, containing the ovisacs, and thus distinguished from the medullary portion; finally the mucosa of the Fallopian tubes, connecting these two. The epithelium and sub-epithelial cells of this membrane are directly derived from the germinal epithelium of the embryonic hypoblast which covers the reproductive eminences of the pleuro-peritoneal cavity. Not only in these, however, but in all the elements of the germinative membrane persists the embryonic property of indefinite growth; because this property has not been extinguished in these elements by any of the modes by which, in other tissues, growth is arrested. This, at least, is certain for the ovary and the endometrium; the details in regard to the Fallopian tubes are at present more obscure. The process of indefinite growth in the germinative membrane takes the place in it of a function, for it tends to fulfil no purpose of the individual organism, but merely serves for its reproduction, a supra-organic end. The process is deflected from a continu-

ous into a cyclical and recurrent movement, on account of the mechanical obstacles which are periodically encountered, and which, until they are removed, serve to arrest the movement altogether. The conditions which result from the presence of these obstacles do not suffice to extinguish the movement of growth, but on the contrary, permit its renewal, until the original obstacle is again encountered. It is by means of this minute remnant of embryonic tissue, preserved in the midst of the adult organism, that a quasi-immortality is secured for the living matter which has entered into that. We may invert Herbert Spencer's proposition, and say that such part of living matter as has assumed function, and been compressed within the limits of an individual organism, has surrendered an immortal existence of pure nutrition, growth, and reproduction."

In this view, ovulation is not considered a cause of menstruation, but rather as a phenomenon usually coincident with the latter, and produced by a similar cause, viz., growth of embryonic tissue.

The ovular theory of menstruation has carried in its train the doctrine that suspension of menstruation necessitated suspension of ovulation, although this conclusion could not be logically inferred, even granting the truth of the ovular theory. While the more recent cyclical theory implies a common cause for both menstruation and ovulation, it distinctly disavows any causal relation between these two functions. Cases showing the occurrence of both ovulation and menstruation independently of each other are so numerous as to be conclusive proof of the absence of any causal relations between the two functions.

Harris, in the *AMER. JOUR. OF OBSTETRICS*, vol. VI., p. 576, says: "The incipency of menstruation in our large cities, as a general rule, marks only the *gradual* approach of the nubile period, and occurs before there are very decided evidences of womanly development, especially in the maturity of the pelvic diameters; so that the possibility of conception is still quite remote. Pelvic expansion, which appears to have been general in cases of early pregnancy at any age, enabling the subjects of it to bring forth living children of full or nearly full size, is evidently only in its incipency in a large number of young menstruous girls.

"The preparatory period which usually exists between the first appearance of the menses and the age of possible conception varies from a few months to several years; but there have

been instances in which impregnation followed the first menstrual epoch, *or even took place before it had appeared*. In tropical countries where young menstrual girls are given in marriage, impregnation very rarely takes place until some time has elapsed, thus marking the duration of this period of sexual preparation."

M. de Sinéty has reported three very interesting cases to the *Société de Biologie* of Paris. The first was that of a woman who had not menstruated for five months, yet one ovary contained a ruptured Graafian follicle. The death was from phthisis. The second case was a woman who died at the age of 38. She had never menstruated. The body of the uterus had not developed beyond its infantile stage, but ovulation had gone on, as was evidenced by many corpora lutea. In the third case, the woman had menstruated regularly from her thirteenth year, yet microscopical examination of both ovaries failed to reveal either a single mature Graafian follicle, or a corpus luteum, or a cicatrix. Dalton, in his "Report on the Corpus Luteum," in the "Transactions of the American Gynecological Society," volume for 1877, p. 136, reports an instance of regular menstruation without rupture of the Graafian follicles or formation of corpora lutea. Lawson Tait reported to the Midland Medical Society (see *Medical Times*, March, 1884) that, out of forty-nine cases of double ovariectomy, twenty-five afforded positive evidence against the ovular theory of menstruation. The extensive reports of Leopold (*Archiv für Gynäkologie*, Bd. xxi., Heft 3, 1883) clearly show that the Graafian follicle may rupture at any time without reference to the menstrual period.

Numerous cases are reported illustrating the continuance of menstruation after removal of both ovaries.

In the *Journal of the American Medical Association*, vol. III., p. 369, Dr. A. Reeves Jackson reports a case in which he assisted Dr. Chas. H. Venn, of Chicago, to perform Battey's operation for dysmenorrhea, March 12th, 1883. At the proper time, following the operation, menstruation occurred, being marked by a scanty flow and no pain. The second and third periods were similar. The fourth period, however, was marked by an increase in the discharge, and a return of the former pain. Ever since, the lady has menstruated regularly and freely, and the pain has been excessive. As somewhat counterbalancing the effect of the foregoing case against the ovular theory, in the dis-

cussion following Dr. Jackson's paper, Drs. Engelmann and Battey each reported a case of conception following removal of the ovaries.

Such reports might be multiplied, but the foregoing cases are sufficient to establish the independence of ovulation and menstruation, and the occasional occurrence, at least, of either one without the other.

Even if the ovular theory be no longer accepted, it is still true that, as a rule, ovulation and menstruation accompany each other, and that the absence of the one function implies the absence of the other.

There are four periods in the woman's life, when ovulation is normally absent. Those times are, previous to the first menstruation, after the last menstruation, during lactation, and during pregnancy. From what has already been shown, we might infer the possibility of ovulation occurring at any of these periods. What are the facts? Many authors, such as Harris previously quoted, state that conception may occur previous to the first menstruation, although I have not been able to find reported cases confirming this statement. A. Reeves Jackson, in his article previously cited, says that numerous cases of conception occurring after the last menstruation have been reported, but I have not been fortunate enough to trace any such cases. However, Prof. Reamy has kindly furnished me with the points of a case which he is in the habit of relating each year to his class at the Medical College of Ohio. He delivered a woman in her fifty-fourth year of her ninth child. At the time of delivery she had not menstruated for eighteen months, and never menstruated afterwards. Her youngest child was five years old at the time of this delivery.

Conception during lactation without menstruation is almost an every-day occurrence.

There remains, then, of the four periods during which ovulation is normally latent, only one period, viz., pregnancy, during which it is still claimed that ovulation never occurs. Ovulation occurring occasionally during the other three periods, analogy would lead us to expect its occasional occurrence during pregnancy. And there is no physiological law which makes it impossible or even implies its impossibility. And now for cases, anatomical, not clinical, which show positively the occasional occurrence of ovulation during pregnancy.

In April, 1881, I had occasion to use a cat in a vivisection experiment, following which, the cat was killed with the anesthetic. On examination, she was found to be pregnant, each horn of the uterus containing two well-developed kittens, each inclosed in a separate sac. The kittens were apparently near full term. Each ovary presented, at each extremity, a small lobule projecting beyond the normal contour of the ovary. Corresponding in number to the four kittens in the uterus, these lobules were at first supposed to be corpora lutea of pregnancy, but a closer examination showed them to be vesicles. I made a section of one of these vesicles, the section presented for your examination this evening, and found it to be a Graafian follicle, and was fortunate enough to obtain a section containing the ovule. The other vesicles were also Graafian follicles, but sections containing the ovules were not obtained.

In the specimen before you to-night, even macroscopic ex-

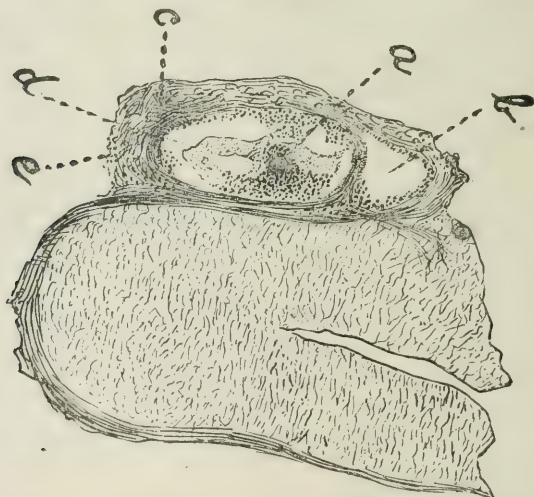


FIG. 1.—*a*, ovule; *b*, empty follicle; *c*, atrophied follicle; *d*, yellow granular fat; *e*, peritoneal coat wanting.

amination will show that the Graafian follicle projects beyond the surface of the ovary. Under the microscope it will be seen that not only has this Graafin follicle approached the surface of the ovary, and produced an elevation of its outer covering, but that it is entirely outside of the ovary, forming a cyst upon its surface. The peritoneal covering is found to be wanting at one point on the surface of the follicle, and the cells at this point

are rather more numerous than at other points, and have undergone partial fatty change. Within, the follicle is seen to be compound, and from one of its divisions, while the membrana granulosa is there well-marked, the ovule itself has dropped out. In the superior wall of the principal division of the follicle, an

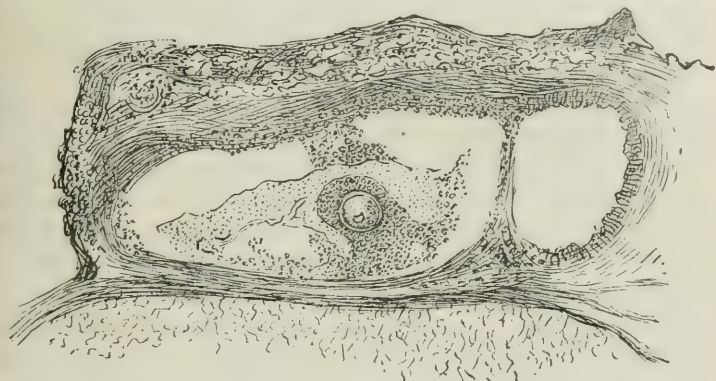


FIG. 2.

atrophied follicle containing part of an ovule is seen. Within the principal division of the follicle is a distinct ovule, imbedded in the usual discus proligerous. A yellowish mass of granular fat surrounds the discus proligerous. The ovule itself contains a well-marked germinal vesicle, and the structure of the cell-

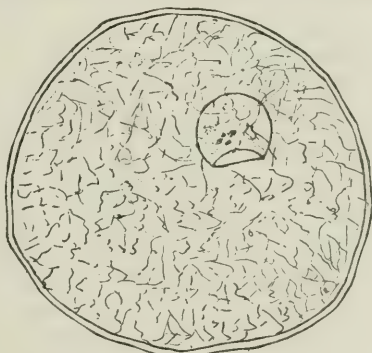


FIG. 3.

contents, that is to say, the paraplasm and protoplasm, is easily made out. On examining the germinal vesicle with a low power, an eccentrically situated germinal spot can be detected. Under a higher power this germinal spot is resolved into four spots.

The maturity of this follicle and of its ovule, and the near approach of the dehiscence of the ovule, are indicated by

1. The size of the follicle.
2. The position of the follicle.
3. The absence of the peritoneal covering of the follicle at one point.
4. The fatty change in the cellular structure at this point.
5. The large accumulation of cells within the follicle.
6. The fatty change which some of the cells within the follicle have undergone.

In view of these features, I present this specimen as a demonstration that ovulation may occur during pregnancy. It is not, indeed, a follicle freshly ruptured during pregnancy, and which, it is admitted on all sides, would be an indubitable proof of ovulation during pregnancy, but it is the condition which immediately precedes the formation of the uncitrized corpus luteum, and certainly can rank but very little lower in the scale of evidence. A close examination of all the conditions present raises the value of this specimen as evidence in favor of ovulation during pregnancy. We have here a mature ovule, in a mature Graafian follicle, from a cat far advanced in pregnancy. This follicle has either developed during the pregnancy, or it was developed to maturity before conception occurred. This is also true of the three other follicles which were found in the ovaries. If we take the second condition, and assume that these follicles had reached their present state of maturity before conception occurred, we must admit that, at the time of conception, there were at least eight ripe follicles in the ovaries, four of which ruptured and gave up their ovules, which became fecundated, and the other four retained their ovules, and continued to retain them without undergoing any change, either progressive or retrograde, during the greater part of the pregnancy. This is unreasonable, because it is contrary to the well-known peculiarities of the Graafian follicles, and because it assumes a process of selection as yet unknown, and which has nothing whatever to substantiate it. Now, if we take the other condition, and assume that the follicle had not reached maturity previous to conception, it must necessarily have developed during pregnancy; and if development has proceeded during pregnancy up to the point of maturity of the ovule and of the follicle, then the process of ovulation has been going on in the ovary, and there is no

reason to believe that the final step in this process, viz., the dehiscence of the ovule, would not occur. The follicle shown is in such a state as to be ruptured by anything which would produce an engorgement of blood in the pelvic organs, such, for instance, as coitus, which is generally regarded as playing some part in determining the time of rupture of the follicle.

An interesting case in this connection is reported in the *AM. JOUR. OBSTETRICS* for 1883, p. 1,056, by Dr. S. L. Jepson. A cat gave birth to "a sac about the size of a hulled walnut, and one-eighth to one-sixth inch in thickness, lacerated at one side. From it protruded two cysts—one, the smaller, containing transparent fluid only; and the other, transparent fluid and an immature fetus three-fourths inch in length, with ears, eyes, legs, and tail plainly visible. About fifteen minutes later, a second, fully developed kitten was expelled." How many more kittens there were, the doctor did not stop to ascertain. He further states that "it is certainly not a case of arrested development from compression, as the sac was round and healthy-looking, and the amnion contained quite a quantity of fluid in which the fetus floated." This shows that the so-called superfetation really occurs in the cat, and the specimen presented to-night explains it.

On page 123 of Pouchet's classical work "*Théorie positive de l'ovulation spontanée, et de la fécondation*," the following case, observed by the author in 1840, is recorded: "In a pregnant cow, three corpora lutea were found on the surface of one ovary, and two on the surface of the other; they were differently developed, and the uterus contained only one fetus of about two months' gestation. Moreover, on one of the ovaries there were observed two large vesicles, in the interior of each of which an egg was found." This case certainly indicates ovulation during pregnancy. If there were evidence pointing to the maturity of the follicles observed, the point would certainly be proven. But Pouchet had no such object in view in quoting the case, and his chapter on superfetation, in the same book, indicates that he did not realize its importance in this direction. Pouchet was working to establish the doctrine of spontaneous ovulation.

The *Obstetrical Journal of Great Britain and Ireland*, Vol. IV., p. 699, contains a summary of a paper by Mayrhofer in the *Wiener Medizinische Wochenschrift*, 1876, Nos. 18 and 19, from which the following extract is taken: "In the last

two numbers of a series of papers on the migration of the human ovum and the development of the corpus luteum, Prof. Mayrhofer, of Vienna, contends that the true corpus luteum of pregnancy, like the false corpus luteum of menstruation, disappears, and is replaced by another at short intervals, and that the doctrine hitherto accepted, that it has a duration of from nine to twelve months, is false. In support of this view, he quotes a series of cases in which death followed the rupture of a tubal fetation of from seven to twelve weeks' duration, and in which the corpus luteum is described as communicating with the peritoneal cavity by an aperture not yet cicatrized. These cases are quoted, one from Luschka, two from Kussmaul, one from Tobege, and two from G. Braun. Although all the authors considered that the corpus luteum so described indicated the Graafian follicle from which the fertilized ovum had escaped, Prof. Mayrhofer contends that the aperture could not possibly have remained uncicatrized for so long a time as from five to twelve weeks, and that the corpora lutea seen in these cases were really quite recent ones, formed during pregnancy, and were only not recognized as such on account of preconceived opinions. He compares the description of their size and appearance with the almost identical account given by Benham of a corpus luteum found in a girl who had died during menstruation, which had all the anatomical characters of the true corpus luteum of pregnancy. . . . That sometimes, if not generally, an ovum is liberated near the time of delivery, the author considers to be proved by a case which he relates, in which coitus, one week after delivery at full term, was followed by pregnancy."

Prof. Slavjansky, of St. Petersburg, in a laboriously exact paper in the *Annales de Gynécologie*, vol. IX., p. 82, furnishes a report of a very interesting and instructive case. A woman, 24 years of age, had menstruated since her seventeenth year, and had been delivered of a child three years previous to her present pregnancy. Her last menstruation occurred Nov. 5th, 1876, but conception is supposed to have taken place early in December. Death occurred March 23d, 1877, from rupture of the left Fallopian tube, due to tubal pregnancy. The legal autopsy was made thirty hours after death, and the generative organs afterward given to Slavjansky for examination. He found on the left ovary a tumefaction which presented a cavity

1.3 cm. in diameter, and on microscopic examination presented all the characters of a Graafian follicle. The contents which had been coagulated by alcohol were carefully separated by a needle, and on examination under the microscope were found to be the cells of the discus proligerus, and within them was found the ovule with its eccentrically-situated germinal vesicle, and germinal spot clearly marked. In the cortical substance of this ovary were found numerous Graafian follicles in all degrees of development, from the primordial follicle up to follicles of 0.3 cm. in diameter. A corpus luteum of 0.4 cm. in diameter was found immediately under the principal cavity. In the cortical substance of the right ovary, were numerous follicles of varying degrees of development, one being 0.3 cm. in diameter. A recent corpus luteum 1.0 cm. in diameter was clearly outlined in the surrounding tissues.

This case is particularly valuable, as it shows in a woman three and one-half months advanced in tubal pregnancy, a ripe Graafian follicle on the same side as the pregnancy, and in the other ovary a recently ruptured Graafian follicle, and in both ovaries other evidences of continuous ovarian activity.

In conclusion, the case in favor of ovulation during pregnancy is, briefly, as follows: The ovalar theory being no longer tenable, ovulation is emancipated from menstruation, and freed from the bondage of the laws governing this latter function. Untrammelled, it has become an independent function worthy of independent study. The possibility, and, indeed, probability of its occurrence during pregnancy is thus established. The positive proof of its occurrence during pregnancy rests on two cases among the lower animals, of matured Graafian follicles and ovules during pregnancy; one case, in a human female, of a matured Graafian follicle and a recently ruptured Graafian follicle during a tubal pregnancy; and six cases, in women, of ruptured but uncitrized Graafian follicles in tubal pregnancies varying in duration from seven to twelve weeks.

A MORNING WITH AUGUST MARTIN.

BY

HORATIO R. BIGELOW, M.D.

CASE I.—*Uterine Myoma; Laparotomy; Supravaginal Amputation of the Uterus; Extirpation of a double Hydro-salpinx of both Ovaries; Drainage; Recovery.*

The patient has had two normal labors, the last time twenty years ago, when she was brought to bed with twins. Her menses began at the eighteenth year, and were formerly regular. For about one year they have been irregular, sometimes occurring every six weeks. When present, the flow is profuse and lasts for seventeen days. During the interval, she has leucorrhœa. A fortnight ago, the menses occurred and lasted eleven days. With this period, she, for the first time, suffered great pain. Bowels irregular. She is emaciating; has a sense of great weakness and inability to go about her daily vocations.

Present Condition.—49 years old, tall and well-formed. Cervix greatly thickened. Fundus much enlarged and hypertrophied, slightly anteflexed, with some deviation to the right. On the anterior wall of the uterus is a hard tumor, about as large as an apple. On the right is another myoma of about equal size, which is probably subserous. The adnexa are made out with difficulty, being displaced downward and backward, and probably fixed by adhesions. *Laparotomy* on Dec. 12th.—This was somewhat complicated, as it was difficult to lift the uterus by reason of the adherent growth of the right side. The tubes were matted together nearly to the pouch of Douglas, and the adhesions prevented any free movement of the uterus. It was troublesome to pass the rubber tube under the body of the uterus, although the tubes were not included. The lig. lata were ligatured and cut on both sides, and the uterus was amputated. The uterus was considerably hypertrophied and was yellow. On the anterior wall was a flat polypus as large as a cherry. The usual elliptic incision was made, the cervical cavity stitched over, then the two flaps of the stump were brought over and united by a number of interrupted sutures, and the peritoneum was stitched over all. Ovaries and tubes removed. Operation lasted forty-seven minutes. No bleeding.

CASE II.—*Subserous Myoma of Uterus; Left chronic Salpingitis; Laparotomy; Supravaginal Amputation of Uterus; Removal of left tube; Drainage; Recovery.*

This patient formerly had her menses every three and a half weeks. The hemorrhage was somewhat profuse and lasted five days. In February, a year ago, the flow was very profuse, also in March and April of this year. Toward the end of April, the

hemorrhage appeared again, and returned every fortnight. For this the uterus was curetted on the 14th of July, at which time large pieces of thickened mucous membrane were removed. At the same time the diagnosis of subserous myoma was made. On the 22d of July, an attempt was made at vaginal extirpation, but failed. Examination of the removed portions of mucous membrane led to a belief that the growth might be a sarcoma, but the ultimate decision was held *sub judice*. After this the patient was in moderately good health. The menses appeared every three weeks, but with increasing profuseness. Since the 18th of November, there has been more or less constant hemorrhage. She is thin, weak, and anxious.

Present condition.—44 years old. Blonde. Uterus of moderate size, anteflexed. On the anterior wall is a tumor as large as a walnut that seems to have a broad insertion. On the left side of the uterus the tube is fixed close to the floor of the pelvis and enlarged. It is as large as the closed hand and wedged in between the uterus and pelvis. Laparotomy disclosed an enormous, parenchymatous bleeding mass, with extensive intestinal adhesions to the tumor on the left side of the pelvis. Upon separating these from Douglas' cul-de-sac, the tumor ruptured, and a quantity of light chocolate fluid, with some clots, escaped into the peritoneal cavity. The tubal sac was then excised. The corpus uteri was studded with small tumors. The cervix was strongly bound down by adhesions. It was necessary to amputate the uterus *in situ*, in the depth of the pelvis, and the elastic ligature was applied here, as it was impossible to raise the uterus. The cervical canal and stump were treated after Martin's method. In both of these cases, the drainage tube was used, a pair of long dressing forceps were forced into the vagina through the posterior cul-de-sac, and the tube was drawn into the cavity. There was but slight bleeding, and the operation lasted forty-two minutes. This operation was an exceedingly difficult one, as it was impossible to manipulate the uterus. It was so firmly bound down by adhesions that the elastic ligature was applied only after much persistent effort, and every attempt to raise the uterus brought on severe bleeding.

CASE III.—*Pyo-salpinx of left side; Laparotomy; Salpingectomy; Drainage; Recovery.* (Escape of pus into peritoneal cavity; two large ulcers in mesentery and mesocolon.)

Patient has had one child nine years ago. No abortions. Menses since the sixteenth year regular, of three or four days' duration, and painless. Last menses four weeks ago. The patient avers that she had no abdominal pain prior to three weeks ago. At that time she began to feel pain in the back and side. At the time of her entry into the hospital, there was a rise of temperature and much pain in the abdomen; an ice-bladder was applied. During the next six days she had no fever, but much pain.

Present condition.—Tall and thin, and not very intelligent; 36 years old; a dirty yellow complexion; externally a round tumor can be made out, the prominence of which is about a hand's breadth below the umbilicus. By vaginal examination, the cervix is felt deep in the pelvis and bent to the left. The corpus bends to the right, deviating to a considerable degree from the middle line, being displaced by a tumor as large as a man's head, which extends to the anterior vaginal wall, filling up the whole left, and part of the right half of the pelvis. It is of an elastic consistence, and seems to arise from the adnexa of the left side. In regard to the sudden rise of temperature of the last two days, it was conceived that suppuration in the tumor had taken place. The diagnosis of extra-peritoneal hematoma was made, although not absolutely. Later on, the course of the disease rendered a diagnosis of pyo-salpinx probable. Laparotomy on the 12th inst. Tumor found to be closely adherent to the descending colon. Sloping above the tumor, a thin, intestinal sling extends, losing itself in the mesentery, where the tumor is lodged. In attempting to separate adhesions, the tumor burst, the stinking contents being poured into the peritoneal cavity. The sac is matted together as far as the pelvic floor. The thin intestinal sling was peeled off from the sac-wall. A black ulceration as large as the palm of the hand was found in the colon, which did not bleed, though it extended over half of the colon, but did not communicate with the sac. The mesentery was corroded, and the ulcer had callous edges. The channel of the gut had also callous masses. Duration of operation, twenty-six minutes.

CASE IV.—*Laparotomy; Extirpation of right Tube; Recovery.*

Patient, Opara, has had her menses irregularly since the fifteenth year, the hemorrhage at first being copious, but more recently very slight. In September and October the menses did not appear. At the end of October, a hemorrhage set in which lasted fourteen days. Coincidentally she lost her appetite, and had a great sense of malaise.

Present condition (November 17th).—Tall, strong, fair girl, 22 years of age. Vaginal portion of the cervix long. Body slightly anteflexed. The cervix is fixed by perimetritic adhesions. On the right near the uterus is a tumor about as large as a walnut, more or less fluctuating, and which was then thought to be the inflamed ovary of the right side. The second examination, made December 11th, shows that the tumor (contrary to opinion of November 17th) has enlarged to the size of an apple, and conceals a distinctly bisegmented growth as large as a duck egg, one segment growing from the thickened tube, and the other lying behind it. Menses absent; sexual congress admitted. Violent pains in the tumor, which increase. The results of curetting show changes in the mucous membrane of the uterus which may be considered as decidual.

Diagnosis.—Probable extrauterine pregnancy. Laparotomy on the 12th. Much bleeding. The tumor lies on the right, between the uterus and the posterior surface of the lig. latum and peritoneum. A mass as large as a hen's egg dropped out of a membrane from the lateral tubal end, which (membrane) was similar to a decidua. The fluid of the cyst was reddish and contained a glairy substance, but the changes in the tube, and the structure of the neoplasm, of course, showed that this was not a case of tubal pregnancy.

CASE V.—*Exploratory Incision; Carcinoma of Peritoneum and both Ovaries; Ascites; Removal of part of the Neoplasm.*

Two children. Last confinement six years ago. Menses since the fourteenth year. Since the summer of 1885 the girth of the body has increased, and there has been a general failure of strength. Cachexia well marked. Respiration accelerated. Great feeling of anxiety. The abdomen is enlarged as in the eighth month of pregnancy. It is tense with a distinct fluctuation. A nodulated tumor can be made out through the abdominal parietes. Some of the tuberosities seem to be separable from the tumor. Anteriorly flat excrescences can be felt, like fungi. The mass fills nearly the entire cavity, so that only high up can a distinctly tympanitic sound be made out. Intestinal percussion sounds are veiled by ascites. Uterus thickened, bent to the left, and pushed out of place by tubercles as large as potatoes, that lie on the pelvic floor and are hard and rough. The vital indication seems to be to evacuate the fluid, and to remove such parts of the tumor as can safely be done. Operation on Dec. 12th. No bleeding, escape of much ascitic fluid. Two large masses almost as large as a man's head. Multilocular ovarian cysts, these have tubercles on them, and on the front aspect are flattened, papillary structures which are the degenerated ovaries. So friable are these that ligatures will not hold. Peritoneum roughened with cancerous concretions. Death on the 16th.

With the exception of this last case, all of the other patients have gone on to a good recovery. In those instances in which there has been any rise of temperature in Dr. Martin's private hospital, it has usually occurred between the seventh and ninth days, coincidently with the appearance of flatus and of intestinal peristalsis. But, as a general rule, most of these cases convalesce without an untoward symptom. In his last eleven cases of supra-vaginal hysterectomy, Dr. Martin has lost but one case, and, after an association with him of thirteen months, during which time I have had free access at all times to the wards and to the books, and after being present as guest or assistant at a very large number of ovariectomies, I count it as an exception to the general rule to meet with any thus operated

upon in whom alarming symptoms or embarrassing complications have manifested themselves. This success I attribute to: 1st. Attention to antiseptic details. 2d. The treatment of the stump. 3d. Intelligent assistants and careful after-nursing.

Dr. Martin's operating room is of stone, well heated and well lighted. It is filled with carbolic spray an hour or two before the operation. The spray is kept in operation during the entire time. The abdomen of the patient is washed with soap and water, then with lemon juice, then with bichloride water; the pubes shaved, vagina irrigated, and bladder evacuated. The night before the operation, the patient takes a carbolized bath, and the bowels are evacuated. Dr. Martin sits on a low stool between the legs of the patient. The operating table, invented by Frau Horn, his matron, is low, of galvanized iron, with a centre section that can be dropped down without disturbing the woman, so that the bandages may be passed without difficulty. One assistant sits at the head, and takes charge of the anesthetic; the other, Dr. Düvelius, sits on the left side of the patient. The arms, hands, and finger nails of operator and assistants are treated with soap and water, lemon juice, and bichloride water. All three change their clothing, and wear clean white linen suits. Every instrument, the needles, and ligatures are kept in antiseptic fluid, also the sponges, the smaller ones never being used twice. The abdomen is entered rapidly, the peritoneum nicked, and opened up, along the finger as a director, with scissors. The intestines are placed outside upon the skin, covered with a clean towel, and attended to by Dr. Düvelius. This leaves plenty of clear space within the cavity in which to work.

The elastic ligature is applied, the uterus amputated, and the stump treated as follows: The incision is in the form of an ellipse. The cervical canal is first stitched so that no septic influence can be conveyed through the vagina. Then the larger flaps of the large stump are brought together by a number of interrupted sutures (I saw Dr. Veit treat the stump in this way with continuous catgut suture), the ends being puckered up in the loop of the last ligature. Then the peritoneum is brought over all. In some instances, the tumor is divided in halves to a point just above the elastic ligature, this half enucleated, and one-half the stump treated as described, then the other half.

In one case, I saw Dr. Martin remove an extra-peritoneal tumor, then cut into the uterus, enucleate two intra-mural myomata, stitch up the uterus, and close the abdominal wound.

I have never seen the least tendency to secondary hemorrhage. I have not heard of such an occurrence when the stump was so treated, and I do not deem such an accident possible.

Dr. Martin does not deem the escape of pus into the cavity during an operation as a complication of serious moment. He washes out the cavity thoroughly with warm water, and although I have seen many such instances, I am unaware of any untoward results. The wound is closed in the usual way.

Dr. Düvelius, the first assistant, is himself a brilliant operator, and a most intelligent man, so that Dr. Martin is most ably seconded. The statistics of Dr. Düvelius' operations are excellent.

The after-treatment is that which usually obtains, but the cases are all carefully watched, and all of the rooms are thoroughly clean, and, so far as possible, made aseptic.

Why there should be such a difference between the results of these serious operations here in Berlin and in the United States it is hard to say. The material here being infinitely larger, of course the experience of the operators is larger, and from this must come a proportionately greater facility, ease, and confidence in operating. In the large details of antiseptic practice, if this be our belief, or in the salient features of absolute cleanliness, if we lean to this phase of surgical procedure, our gynecologists are stringent; but I question much if they are equally as rigorous in the little things. I believe, too, that, as at present practised, the intra-peritoneal treatment of the stump offers advantages not possessed by the extra-peritoneal, and I do not now look upon it as a matter of any more significance to drop a properly prepared stump after a hysterectomy than is the same practice after an ordinary ovariectomy. I believe, and, indeed, know, ovariectomy to be often a severe operation; but I have seen so many here with such universally good results—I have seen so many, nay, all of them done so rapidly and apparently so unconcernedly—that I have almost begun to regard it as a matter of course for the patients to recover. I have seen Dr. Martin operate under many trying circumstances, and under conditions that try men's nerves to the utmost; but he is never ruffled, and always cool and ready for any emergency.

He is a rapid operator, and exceedingly deft in his manipulations.

BERLIN, December, 1885.

"PUERPERAL DISEASES."

AN EXPLANATION.

BY

J. BRAXTON HICKS, M.D.,

F.R.S., F.R.C.P. London, etc., etc.; Consulting Obstetric Physician to Guy's Hospital, London; late President of Obstetric and Hunterian Societies, etc.

WHEN in February, 1870, I read a paper entitled "A Contribution to our Knowledge of Puerperal Diseases, being a short account of eighty-nine cases with remarks," and when also I spoke in the discussion in 1875, at the Obstetrical Society of London, "on the relation of puerperal fever to the infective diseases and pyemia," I thought I had spoken with sufficient clearness on one point, namely, that my contributions to our knowledge on these matters were not at all an attempt to settle the question; nor indeed to express any opinion more positive than was clearly to be gathered from the facts I had, in the paper first named, brought forward. But as I am credited in England, America, and Australia with opinions I have never held, and with beliefs and teachings I have never uttered, I cannot but conclude that some who have done me the honor to mention my name could not have perused the original communications; some having gone so far as to say I have "attributed" puerperal fever, altogether, to scarlet fever.

It seems to me, therefore, not only due to myself, but also possibly advantageous to the unravelling of this most important but difficult subject, to endeavor to put my position clear; and at the same time to briefly emphasize the utility of studying of these diseases from the standpoint that, I believe, I was the first to initiate in a positive way, namely, from surveying the surroundings of each patient. I intended, and I thought I had succeeded, to avoid any final conclusion as to either the cause or nature of puerperal diseases, and particularly of the so-called "puerperal fever," because, on the one hand, I knew it was impossible, without much more extended observations, to arrive at

any satisfactory conclusion ; and, on the other hand, because I felt and still feel that the professions of each writer on the subject that he had solved the mystery of puerperal fever, and had discovered the key which will reveal or rather had revealed the hitherto hidden secrets of this terrible scourge, has done more to hinder and clog our eager steps in the pursuit after this *ignis fatuus* than any other error into which we have fallen. Influenced by these sentiments, I entitled my paper "a *contribution* to our knowledge," etc.; the paper itself was the result of an inquiry into the important influences surrounding the lying-in woman, in order to find the causes most potent in affecting her recovery. It was *not* undertaken "to illustrate" this or that theory ; nor carried out with any special thought of any particular condition, the outcome of the disturbance, such as so-called puerperal fever ; nor in view of any particular severity in the result, such as death ; although, the cases having been seen in consultation, they naturally were of the severer sort ; therefore at p. 46 I make this remark : "It would be highly desirable if reports could be obtained of not only the severer forms, but of all the diseases which occur in private practice after delivery, accompanied with a full account of the surroundings of each patient." And again in the discussion "on the relation of puerperal fever to the infective diseases and pyemia" ("Trans. Obstet. Soc. Lond.," 1875, Vol. 17, p. 110) I say : "It is not alone by the death-rate we should judge ; I would say broadly that, where one dies, three or more are retarded in their recovery by a state of fever, more or less mild, or by secondary effects, as cellulitis, etc. Nor till these also are calculated in, can we recognize fully any influence brought to bear on the puerperal woman." In the first words of my part in this discussion I say : "I presume that by the discussion in which we are engaged we shall not be able to clear up all the ambiguities and uncertainties with which we are surrounded. I take it that the current opinion of observers may be brought out, and thus a certain impetus is given in the progress of knowledge, which would not have taken place had each speaker waited to mature his opinions. Hence it follows that opinions expressed under such circumstances have more or less the disadvantage of imperfection, etc." I must apologize for so much egotism, but I am anxious to show that I have done nothing so precise as to "attribute" "puerperal fever in

general to be some modification of scarlet fever or other exanthem."

But what I have endeavored to do is this, in the words of my remarks at the above-mentioned discussion: "However, the general post-mortem appearances having now been ascertained, it is to the clinical study of the disease I would now urge the attention of obstetricians; leaving the inquiry as to the exact nature of the poison as a separate one; simultaneously carried on, but still separately. By this means, we proceed with more distinctness of purpose." Now in my above-named "contribution, etc.," I used the term "*puerperal diseases*," not *puerperal fever*, which I have generally alluded to as "so-called," and this term "diseases" it is important to keep to, in such a clinical investigation as I was proposing; otherwise our minds could not be kept so open to observe every fact; at any rate, not so free from bias as when it was restricted and hampered with a fixed idea, such as that implied by the term "*puerperal fever*," which it may be useful enough to have in hand for certain purposes when under discussion, but it is apt to become identified with a disease very severe and generally fatal; and therefore the cases which are milder have been excluded from consideration, though really they are the more suited for clinical examination. Hence I used the term advisedly in order that any divergence from healthy recovery might be included, and its cause inquired into.

The cases brought forward in my "contribution" form a fair average of ordinary London consulting practice, in respect of the relative proportion of the influences surrounding our patients. But it is impossible to arrive at anything like accuracy from the observations of one man, or of all the practitioners of one town or city, even of the size of Berlin, where it was said that diphtheria was *the* cause of *puerperal fever*. The value of the study of the clinical surroundings of a woman before, during, and after delivery must be obvious to all; particularly in view of the prevention of *puerperal* disarrangements, but also in the study of the nature of the causes which bring about the symptoms. For supposing we find in a group of women, known to have been exposed to a given influence, that some had afterwards slight, some grave disturbances; supposing also that these symptoms varied much, some even being absent, while some others were added; supposing still further that from apparently different

influences the same group of symptoms arose, we might fairly argue either that the influences were actually not of different kind; or that they were capable of producing a common factor.

By carefully considering a large number of cases from all parts and at various times in regard to their surroundings, we are enabled to see more clearly the variety of influences and their relative vigor, as well as the variability of their effects. For instance, if we find violent mental emotion, a severe attack of diphtheria, a poison from sloughing wounds, violent attack of scarlatina, or exposure to the infection of a case of so-called puerperal fever, if we find all producing a similar set or train of symptoms, then we have to acknowledge that in some way or other there is something in common between them, or acting coincidently. We are thereby able to gauge the importance of these influences, and are more capable of guarding against their approach.

And there is another important gain, namely, that we are better enabled to group together the effects so brought about, though these may be very variable in external character individually, though collectively similar. This may be said to be true of all diseases, but in the study of those whose cause is uncertain, it is especially necessary that we use this method. The proposition "like causes, like effects," is apt to oversway our minds, and to cause us to look to single symptoms rather than groups.

When, as before remarked, post-mortem observations, and the clinical study of the symptoms had done all they could for the present, and had failed to elicit further answer, I offered the history of a number of cases of simple labor in which disturbances more or less remote from healthy recovery occurred; and after careful inquiry into what influences, known to be generally detrimental to others than puerperal women, might possibly have had an opportunity of approaching her, the results of this inquiry were given in eighty-nine cases. In some I found the distinctive symptoms of a zymotic disease, as diphtheria, scarlatina, erythema, and erysipelas; some with ordinary symptoms of these complaints, but many with severe symptoms like those of the so-called "puerperal fever." Then others suffering from these symptoms having notably stinking discharges from the uterus; others in which violent mania was present, coupled with symptoms of the so-called puerperal fever, and one, whose case

was a marked one of this condition, was attended by a medical man who was dressing twice daily a large sloughing wound. Then there was a group of twenty-one of varying degrees of severity; some being of the so-called puerperal fever kind; others milder, with or without peritonitis, parametritis, etc., but in whose history I was unable to find any clear account of untoward influence other than obtains in the casualties of ordinary life. But, of course, without at all pressing the point, it may be remarked that it is very difficult to obtain in many cases the whole evidence at the time of attendance; indeed, in some of the cases narrated, where I had no evidence at the time, I obtained it indirectly afterwards of the most conclusive kind, so that it is possible that some of these twenty-one had some untoward surroundings other than appeared at the time.

But even allowing that no external causes had operated upon these twenty-one, there were, out of a total of eighty-nine, sixty-eight in whom there was either a recognizable potent cause at work, or the patient had been notably exposed to it. And of these sixty-eight, as many as thirty-seven either had scarlatina, or had been notably exposed to its contagion. But comparing the number of cases exposed to zymotic diseases of one sort or another, we find at least fifty-two out of a total of eighty-nine, or close on two-thirds. If this may be taken as a fair average out of the cases of puerperal disturbances (and my further experience leads me to think that it is), then at any rate it is a matter that must be cleared up before we can tell the relative proportion of the principal malign influences afflicting the puerperium.

But I have never at any time written or said, that every so-called puerperal case owes its origin to scarlatina or some exanthem *of necessity*. What I have said is this, that out of eighty-nine cases of puerperal women, whose recovery was seriously disturbed or where death ensued, so large a number as sixty-eight had been exposed to, or actually bore symptoms of some exanthem, or had had the chance of septic infection. I do not say that these were cases of "puerperal fever," but that many showed symptoms of so-called "puerperal fever;" some without any special sign of an exanthem, but some with; but all in such varying admixture that, had it not been that I had specially looked for these signs, they would have been overlooked, as indeed in most instances they had been by the attendant.

It was also shown that, of these sixty-eight, no less than thirty-

seven (more than half) had the rash of scarlatina well marked, or had been manifestly exposed to scarlatina; of the rest there were symptoms of, or intimate contact with, diphtheria in seven, erysipelas in six.

With regard to the rash, I entered into a consideration of the surgical rash which at that time had not excited much attention, and brought instances of scarlatina after surgical operations, but my remarks were intended to rather call attention to the subject; certainly not to settle the question. The same may be said of my remarks on the modifications of disease, and the variability of symptoms; and in allusion to this, Dr. Albert Smith, in his address before the American Gynecological Society, October, 1884, is reported to say, in regard to this subject (*Philadelphia Med. Times*, October 18th, 1884):

"Braxton Hicks attributes the puerperal fever poison either to some modification of the scarlatinal or other exanthematous virus through the lungs, and its development after delivery." But really I do not "attribute," nor, as others have said, "continue to maintain," "puerperal scarlatina is a form of puerperal fever, deriving its special characteristics from the scarlatinous infection" (Busey on "*Scarlatina Puerperalis*," *American Journal of Med. Sciences*, April, 1884).

I certainly have not said that I thought it to be derived through the lungs, but have discussed the probability of their being received through the parturient passages after the manner of surgical scarlatina.

The object of this communication is not to discuss the whole question, but to clear myself from the imputation of having assisted in obstructing progress by any dogmatic assertion. I therefore think I cannot do better than quote part of my remarks, made at the London Obstetrical Society, in relation of puerperal fever to infectious diseases and pyemia, in 1875, where I say: "That the puerperal woman is, by the means of these various factors, brought into a state which we recognize as blood deterioration or disturbance, so that either she dies rapidly, or that, if this event be postponed, the processes required for repair after labor are so perverted as to be accompanied by inflammation, extending to the peritoneum, or producing effusions which often tend to suppurations, or to the uterine veins, producing plastic plugging and its consequences; or the blood generally assumes a tendency to coagulate, and thus fibrinous

deposits form in the vessels in many parts; in fact, to all the secondary troubles known to us all as the results of the primary blood disturbance, but considered formerly as the primary condition." This was said ten years ago; our knowledge has advanced, the germ theory was young then. The whole question is a very complicated one, and cannot possibly be *settled* by a résumé, however well done, of all the information of the present hour; the solution of it goes *pari passu* with the investigation of the infective diseases, of pyemia and septicemia. Our knowledge on these subjects is imperfect, though progressive. With regard to the influence of the scarlatina poison in surgical cases, there is a very excellent article by Drs. Goodhart and Paley in "Guy's Hospital Reports," 1879, p. 287, in which, amongst other things, they came to the conclusion that scarlet fever, by its elevating the patient's temperature, facilitates the formation of sepsis, and thus gives additional risk to the lying-in woman. It is clear that the cause of puerperal disturbances cannot be discussed properly without the information gained by the knowledge of the infective diseases in surgical cases, whether exanthematous or septic, and also it is clear that the whole question cannot be satisfactorily considered without a perfect knowledge of the nature of these diseases. For this we have patiently to wait, not in the mean while impatiently jumping at conclusions which may be controverted next day. In the mean time, much help may be rendered by as complete an examination as possible into the surroundings of every influence likely to affect our patient. This, I maintain, has not been done in private practice; and yet these are the cases in which inquiry of this kind can be best accomplished. But, till the results of the investigations I carried out are proved not to be sustained in general, the points there shown must always be kept in view in any investigation of the subject; and in the same inquiry the modification of symptoms will also form a very important item, although Dr. Albert H. Smith says, "as he could conceive of such a change, he passed it by without discussion." Yet, if these infective diseases are owing to living germs, nothing is more likely than that, as there are different phases of growth, each phase would have symptoms peculiar to itself.

Whether it will ultimately be proved, as has been suggested by some, that the active agent of sepsis is a living germ; whether it be proved that this is the common fact or amongst

all the untoward surroundings which have been shown to be about our patients, or whether it is that the presence in the system of a specific germ of each infective disease simply acts as a disturber of the normal attempts at repair, or encourages the growth of the septic germ, or facilitates the formation of "les ptomaines," or kindred results of decomposition, in either case, before we finally can settle the much and long-vexed question of the nature of so-called puerperal fever, we must patiently work, accumulating information from all sources, and, not the least, with constant inquiry into the environment of our patients. It is the constant attempts of obstetricians to deliver a final opinion on the subject that has hindered, and will continue to hinder, our advance, retarding our investigations, both clinical and pathological.

A CASE OF RETENTION OF MENSES FROM AN IMPERFORATE HYMEN—OPERATION—CURE.

REPORTED BY

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THAT cases of hematometra and hematokolpos (Ziemssen, Vol. X., page 48) are of infrequent occurrence in this country is inferred from the fact that so little is said on this subject in our works on gynecology, many authors not noticing it, and others only devoting a few lines to its consideration.

In Europe this operation is believed to be fraught with more or less danger to life. In what little has been written (so far as my limited means of ascertaining extend), I find a diversity of opinion in regard to the mode of operating, and the danger resulting therefrom. Dr. T. G. Thomas advocates repeated operations (every three or four days) by aspiration, or by keeping a trocar having a stop-cock, *in situ*, through this a given quantity of the fluid is allowed to escape at stated intervals until the cavities are emptied. He does not speak of the operation as being dangerous. Dr. Emmet has operated four times; he approves of a free incision. Had his attention not been

called to fatal cases, he would not have considered the danger worthy of notice. Baker Brown ("Diseases of Women") recommends that the hymen be removed entire, and in reference to the danger attending the operation, says: "This appears very simple and easy, yet many young women have lost their lives by this operation, from subsequent peritonitis." Barnes (on "Diseases of Women") advises drawing off small quantities of the pent-up fluid at a time, by the "aspirator trocar." As to the danger, he writes: "And it is to be apprehended that cases will continue to occur in which a fatal result will follow any method of treatment." Drs. Ramsbotham and Lefort collected several cases in which simple puncture resulted fatally. Dr. Holmes, in his "System of Surgery," vol. V., speaking of this operation, says: "We have to show that even the simplest operation, when performed after menstrual accumulations have taken place, are attended with peculiar danger." He relates a fatal case of a perfectly healthy girl sixteen years old, from whom he evacuated the fluid by a simple thrust of a common lancet. The patient died of peritonitis. Dr. McLane, in his lectures on gynecology, when speaking about the methods for the relief of retention of menses from imperforate hymen, says: "A great source of danger is the admittance of air to the confined fluid, causing decomposition and possible subsequent septicemia."

The successful course of the case that I now relate inclines me to believe that the danger lies not so much in the method of operation, as in exposure to septic poisons, and that by the proper use of antiseptics, most, if not all, danger can be avoided.

S. S., aged fifteen years, was admitted to the hospital, Nov. 24th, 1885. She first made known her trouble to her mother four months prior to her admission, when an enlargement of the lower zone of the abdomen was well marked.

She was suffering from pains closely resembling labor pains. Examination showed the labia to be widely separated and protruding from between them was a hemispherical tumor, appearing much like the fetal head when the face is about traversing the perineum. The uterus was enormously distended, reaching above the umbilicus. The vagina could be plainly felt through the anterior wall of the rectum, like a large soft sausage. The bladder was contracted and forced down upon the pubes, and could retain but a small quantity of urine. The tumor fluctuated plainly.

On Nov. 26th, Dr. T. J. Dunott, Visiting Surgeon, removed thirty-nine ounces of retained menstrual blood by aspiration. A gum catheter was then introduced into the bladder and made to perforate the antiseptic dressings which completely covered the

external parts, the whole being retained by the ordinary T bandage.

The fluid aspirated was liver-colored, having the consistency of syrup, coagulated soon after removal, and was devoid of odor.

After the operation she was given the sulphate of quinine gr. x., and kept perfectly quiet in bed. Nov. 27th. Slept well; temperature 98.5°; pulse 78. Has no pain or tenderness in hypogastric region. About half an ounce of fluid escaped during the night. Appetite excellent. Second operation, performed by Dr. Dunott, consisted in passing a grooved director through the puncture and opening the hymen by a Y shaped incision; the upper extremities of the Y extending laterally upwards and outwards, nearly to a level with the meatus urinarius. Over a quart more of menstrual fluid was rapidly discharged. The vagina was then thoroughly douched with a solution of corrosive sublimate (1-1,500), and a glass rectal speculum, filled with borated cotton and thoroughly sprinkled with iodoform, was inserted. She expressed a sense of great relief. Vagina syringed twice a day with hot carbolyzed water, and urine drawn by catheter. Temperature normal, appetite excellent, bowels regular, no abdominal tenderness, and no discharge. Dec. 1st. Speculum removed and patient allowed to sit up for two hours. Evening temperature 99.2°; given the sulphate of quinine gr. x.; the temperature soon became normal, and did not again rise during her stay. She steadily improved, the speculum being withdrawn during the day and replaced upon retiring. Discharged cured, Dec. 5th, 1885.

The antiseptic dressings consisted of four layers of surgeon's lint, three layers of Lister's antiseptic gauze thoroughly soaked in a solution of corrosive sublimate, 1 part to 1,500 of water, and sprinkled with iodoform, the whole being covered with gutta-percha tissue.

CORRESPONDENCE.

OÖPHORECTOMY IN UTERINE FIBROIDS.

EDITOR OF THE "AMERICAN JOURNAL OF OBSTETRICS."

SIR:—In the last number of your Journal, a short paper from Horatio R. Bigelow, M.D., appears, in which he says that he recently had occasion to take issue with me in regard to my very absolute statements concerning the merits of oöphorectomy in the treatment of myo-fibromata of the uterus. In the discussion to which this alludes, which appeared in the *British Medical Journal*

for September of last year, the concluding communication from myself was to the effect that "Dr. Horatio R. Bigelow showed me completely that he had an aptitude for misrepresenting the views of other people, and no very great power of expressing his own. I can supply the facts and arguments, but I cannot supply the intelligence necessary to understand them." It is a matter of very great regret to me that I am obliged to repeat this language in your columns, but it is absolutely necessary that I should do so, for any one who reads Dr. Bigelow's article, without knowing something of my work, would fall into the mistakes out of which it seems perfectly impossible for Dr. Bigelow to extricate himself.

In the first place, I have never said one word about the merits of oöphorectomy in the treatment of myo-fibromata of the uterus. The operation which I advocate, and the advantage of which I have conclusively proved, is removal of the uterine appendages in uterine myoma; and if the conclusions which Dr. Bigelow summarizes in the paper in your Journal refer to the operation which I speak of, I think the easiest method is to dispose of them categorically.

The following are his conclusions and my answers to them, and in order to save space, I put Dr. Bigelow's words in italics.

1. *A rare percentage of tumors are dangerous by reason of hemorrhage.* What Dr. Bigelow ought to say here, of course, is, that a rare percentage, or at least, some percentage unknown, of all myomatous tumors are dangerous by reason of hemorrhage, because we know from the post-mortem records that there are countless cases of myoma that never draw any attention to their existence during life at all, whilst, on the other hand, cases are coming to us constantly by reason of suffering chiefly hemorrhage. Therefore, Dr. Bigelow ignorantly misrepresents the true facts of the case. Of course, we are not concerned with cases that do not come to us—that is to say, cases where there is disease found by accident on the post-mortem table, but which had no clinical importance during life.

2. *The bleeding may be from sources posterior to the tumor.* I have studied the pelvis very carefully for many years, and I think I may be admitted to know something about its anatomy and its surgery, and unless this refers to the accidental occurrence of hemorrhage from piles, this sentence is wholly unintelligible.

3. *Enucleation of ovaries and tubes will not always necessarily arrest the bleeding.* I have published my first fifty cases in detail (see *British Medical Journal*, August 15th, 1885), and in all

of these, with one exception, on the evidence of others, not upon my own evidence, the hemorrhage will be found to have been completely arrested. The exception to which I allude was the exception which proved the rule, because I have since (see *British Medical Journal*, Oct. 3d, 1885) removed the tumor, and found that the operation which I thought I had performed completely, I had performed incompletely. The patient had only one Fallopian tube, and instead of wholly removing that, as I ought to have done, I had removed only about a third of it.

4. *It cannot be predicted beforehand that the operation will be successful.* Of course, we cannot insure that the sun will shine to-morrow, but as it has shone on previous days with unerring certainty, and as our experience now, without any exception save that to which I have alluded, is that the bleeding is arrested by removal of the appendages, we may be as sure about this proceeding as we can be about anything in surgery, that it will completely arrest the bleeding. There is, of course, the further exception that we may make, as I have made, occasional mistakes, or the tumor may be malignant, in which case, of course, the bleeding will return and kill the patient.

5. *The sequelæ will be fatal, if Tait's logic be correct, for a mass deprived of its nutrition is left within the abdomen to undergo degenerative changes, the products being absorbed or carried away as best they can.* This is perfect nonsense. The mass is not deprived of its nutrition, because no vessel supplying the uterus is interfered with at all. What we do is to imitate nature's own process at the time of the menopause by arresting menstruation, and the sequelæ of the operations have not been fatal in a single instance. This brings me to speak of the extraordinary blunders of which only Dr. Bigelow and Mr. Spencer Wells seem to be capable. It is not, as Dr. Bigelow seems to imagine, the tying of the superior vessels of the uterus which has anything to do with the success of the operation, and it is not necessary, as Dr. Bigelow and Mr. Spencer Wells seem to think, to cut off the blood supply from the uterus to cure these tumors. I never make any attempt to strangulate any blood-vessels, and yet my operations are successful.

Dr. Bigelow asks, "Why, then, should it be supposed that an operation which has for its object the arrest of the growth of a tumor, by strangulating its circulatory supply, should not exert a similar influence upon the whole body of the uterus?" It never has been supposed so by anybody except Dr. Bigelow and Mr. Spencer Wells; and I altogether object to the supposition as un-

supported by any kind of evidence. The influence of the operation is, that by removal of the ovaries and tubes, chiefly the tubes, according to my own experience, the menstruation is arrested, and the moment menstruation is arrested, the whole contents of the pelvis are put at rest, and the tumor disappears or diminishes in size.

Towards the conclusion of the paper, Dr. Bigelow says that "the operation of oöphorectomy (by which, I presume, he means removal of the ovaries and tubes) is very often an extremely difficult one, more difficult than hysterectomy, and in other hands than those of Mr. Tait has not given brilliant results." I can only say that if this is really true, and I very much doubt it, it must have been Dr. Bigelow's misfortune to see the operation performed by most bungling operators. Hysterectomy is the most ghastly, serious, and difficult operation in the whole realm of abdominal surgery, and that removal of the uterine appendages for myoma is not a difficult operation in skilled hands is proved by the fact that, in the table to which I allude (see *British Medical Journal*, Aug. 15th, 1885), I published fifty-eight consecutive cases without a death, and within that series there was not a single incomplete operation. I have not, at the present moment, leisure to take out my statistics since then, but I believe that, since that paper was published, I could double the number of cases performed, with only one death and without a single incomplete operation; that is to say, the mortality is less than two per cent, and the operation so relatively simple that I never leave it incomplete. Let me say, finally, that no kind of argument can be based on such statistics as have been published concerning this and other similar operations in America and Germany. For instance, the mortality of Agnew's table is not the mortality of the operation, but the mortality of some thirty or forty operators, most of whose efforts were simply murderous. It is not the mortality of the operation, but the mortality of the surgeon, and it is only of a piece with Dr. Bigelow's want of information on the subject that he should seriously advance any argument from such a mass of disasters as that table represents. My experience, as I have already said, shows that the operation is, indeed, "a radical one, and not palliative;" it is a radical cure, as the lives of my patients after the operation, in some cases, now extend to ten or twelve years, and they remain in perfect health.

The conclusion of Dr. Bigelow's paper is a most glaring example of putting the cart before the horse. He says: "Hysterectomy is a dangerous operation, but a radical one. Do the general

mortality statistics favor one above the other? If the percentage be equal, there can be no question of choice." Hysterectomy, I say, is a dangerous operation, so dangerous that Dr. Bigelow has not accepted my challenge, made on September 19th, 1885, to let us know what the real mortality of hysterectomy in Berlin is. I am informed by trustworthy German and American visitors that it runs between forty and sixty per cent. If this is so, then the proceeding ought to be stopped by legal interference. If it is not so, then we ought to be put in possession of what the facts really are, but neither Dr. Bigelow nor his friends will ever venture upon the publication of statistics, as is the habit and custom in England, where every case is set down in detail in its order, authenticated by name and age in such a way that there can be no possible dispute as to its occurrence or result. Until this is done, nothing but condemnation can be meted out to the work of the German surgeons. I have shown that my mortality of removal of the appendages is less than two per cent. The best mortality yet published of hysterectomy is by Dr. Keith, and that is about twelve per cent, to which rate, I think, I have brought my own at the present moment. There is, therefore, no choice between the operations; and I always think that if the operations of removal of the appendages were performed early, and before the tumors were allowed to grow to such a size as to make their removal a matter of necessity, there would be no need for hysterectomy at all, and the mortality of this terrible disease would be brought down to a percentage infinitely less than scarlet fever or measles.

I am, sir, yours, etc.,

LAWSON TAIT.

BIRMINGHAM, March, 1886.

TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF NEW YORK.

REPORTED BY THE SECRETARY, DR. H. C. COE.

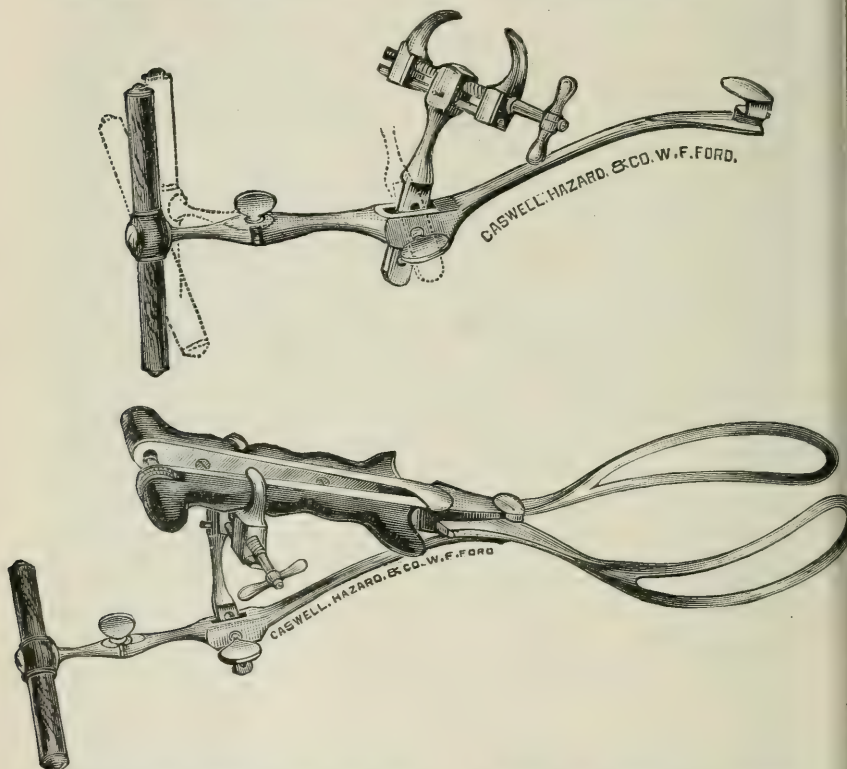
Stated Meeting, March 2d, 1886.

The President, DR. PAUL F. MUNDÉ, in the Chair.

AN AXIS-TRACTION ATTACHMENT APPLICABLE TO ANY VARIETY OF
FORCEPS.

DR. BROOKS H. WELLS (present by invitation) showed an ingenious device of his own, by means of which an ordinary pair of obstetrical forceps can be converted into axis-traction forceps. It consisted

essentially of a traction-rod, at the end of which was a notched hook which fitted into the angle made by the divergence of the blades, and was provided with a transverse handle. From this rod arose a movable arm with a clamp which grasped firmly the handles of the forceps, and held them at any desired distance from the traction-rod, thus allowing the line of traction to be adjusted to the varying pelvic curves of different forceps.



The instrument was designed to be attached after the forceps were applied and locked. The speaker showed a pair of Tarnier's forceps for the purpose of comparison.

THE PRESIDENT called attention to the difference between the axis-traction attachments in the two forceps shown. In the Tarnier variety traction was exerted in a line with the blades, whereas with Dr. Wells' arrangement the force was applied at the lock.

DR. WELLS admitted that the point of attachment was different, but he thought that the *line* of traction was the same.

DR. GRANDIN thought that the tendency of the traction with Dr. Wells' attachment would be to pull the blades off from the head. The instrument was certainly less complicated than that of Tarnier, and possessed the special advantage that it could be used with whatever forceps with which the operator was already familiar.

A SPECIMEN OF OVARIAN CYST SHOWING UNUSUAL DISTENTION AND
CALCAREOUS DEGENERATION OF THE LINING MEMBRANE—OPERATION—DEATH.

DR. NILSEN exhibited the specimen which consisted of two portions of a cyst, one of which was removed by laparotomy, the other after death. The sac contained forty-seven and a half pounds of fluid. It was found to be universally adherent at the time of operation, so that a part only was excised, the edges of the remaining portion being stitched into the abdominal wound. The patient had albuminuria before the operation, and died of uremia on the fifteenth day following it. The adherent cyst was removed with difficulty at the autopsy, only by tearing away the coils of intestine with which it was surrounded.

DR. GRANDIN asked if the patient had organic disease of the kidneys. The speaker replied in the affirmative. "Why then was the operation performed?" asked the former gentleman.

DR. NILSEN replied that the object aimed at was simply to relieve the extreme distention of the abdomen, which occasioned great distress.

DR. WARD asked if he understood the speaker to say that the patient had been tapped.

DR. NILSEN said that she was not tapped except at the time of the operation.

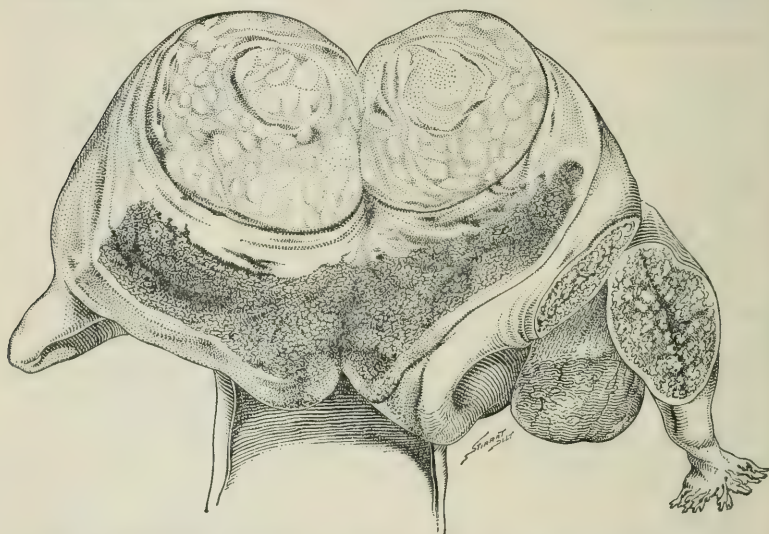
A SPECIMEN OF EPITHELIOMA OF THE FEMALE BLADDER—DEATH
FROM PROBABLE PULMONARY METASTASIS.

THE PRESIDENT showed a bladder from which he had removed with the curette a mass of cancerous material which was presented to the Society at a previous meeting (January 5th). The operation was performed for the relief of distressing symptoms (hematuria and frequent micturition), and to that extent it was perfectly successful. The patient lived for four or five weeks after the operation, and died with symptoms of pulmonary metastasis. The speaker demonstrated the fact that no permanent lesion of the vesical wall had resulted from the scraping. Another interesting feature in the specimen was the presence of a small friable thread, which possibly represented the encysted ligature, remaining after an operation for the removal of an ovarian tumor, which had been performed by Prof. Tauber, of Pesth, two years before.

A SPECIMEN OF VILLOUS CANCER OF THE CERVIX AND BODY OF THE
UTERUS, OCCURRING SIMULTANEOUSLY WITH A SUBMUCOUS FIBROID—
OPERATION BY CURETTE—DEATH FROM PULMONARY EMBOLISM.

THE PRESIDENT exhibited a second specimen, possessing considerable interest. The history of the patient from whom it was removed after death was briefly this: She came to the speaker's office three weeks before, having been sent to him by her attendant, who had made the diagnosis of epithelioma of the cervix. She was a nullipara, forty-five years of age, and since August had suffered with severe hemorrhages, which recurred at irregular intervals, being sometimes slight and at other times profuse. Of

late she had begun to have an extremely offensive discharge from the vagina. On examination, the lips of the *portio vaginalis* felt normal, but protruding from the *os externum* was a friable mass which broke down under the finger and bled easily. The fundus was enlarged and felt hard, as if from the presence of a fibroid. It was at first thought that the tumor was a sloughing fibroid, but this diagnosis was rejected, because the sound entered the *centre* of the mass, and did not pass on one side of it, as it would have done if the growth had been an intrauterine polypus. Depth of uterine cavity, four inches. The condition was recognized as a rare one, namely, epithelioma arising within the cervical canal,



Combined fibroid and epithelioma. Median section. Front view. Fibroid at fundus. Body of uterus showing epithelioma. On left side adhesion detached showing extension of epithelioma.

but not involving the vaginal covering of the cervix. The patient was advised to enter the hospital, simply to have the sloughing mass removed. Both her husband and herself were assured that the operation was not a dangerous one.

The cervical canal was first thoroughly curetted, and then the finger was passed into the uterine cavity, malignant disease of the latter being discovered, as well as the presence of a subperitoneal fibroid at the fundus. The uterus itself was fixed and the entire organ had a firmer consistence than normal, as if it was infiltrated. The uterine cavity was curetted, and the uterus was washed out with a solution of corrosive sublimate. Pledgets of cotton saturated with chloride of zinc were next applied to the cervical canal (the uterine cavity being packed with iodoform gauze), and these were retained in position with vaginal tampons, the upper layer being covered with iodoform, while the lower ones were soaked in

a solution of bicarbonate of sodium. Three or four days after the operation the temperature rose and was elevated for several days, while at the same time there were evidences of peritonitis. The patient's condition improved, but on the tenth day, while sitting up in bed, she suddenly fell back and expired, her death being doubtless due to pulmonary embolism. The specimen was submitted to Dr. Heitzmann for microscopical examination. He pronounced the disease to be villous cancer of the endometrium, a rare form of malignant growth in this locality, although not uncommon in the bladder. A mass presenting similar microscopical appearances was situated in one of the broad ligaments near the ovary. The speaker remarked that the association of cancer and fibroma was quite uncommon, especially when both neoplasms were found in immediate contact, as in this case; he had seen but one other similar case in which there was cancer of the cervix and fibroid of the uterus.

DR. WYLIE asked if the patient's temperature was elevated at the time of her entrance into the hospital. A negative answer was given.

DR. PERRY asked if the entire uterine cavity was encroached upon by the fibroid.

THE PRESIDENT said that it was not.

DR. WYLIE remarked that he had had two cases in his ward at Bellevue Hospital, in which a suppurating tumor presented at the *os externum*. He did not believe in attempting to remove such growths before antiseptic vaginal injections had been employed until the decomposing masses had been rendered practically aseptic; then the curette might be used with far less risk of carrying infection into the uterine cavity.

THE PRESIDENT believed that the peritonitis in his case might have been due to the chloride of zinc.

DR. WYLIE said that he had in former years seen many cases of sloughing fibroids at the Woman's Hospital, most of the patients dying of septicemia whenever attempts were made to remove the tumors; this experience had led him to be most careful in regard to antiseptics.

DR. HANKS asked if the patient did not really die of pulmonary embolism, and not of septicemia.

THE PRESIDENT assented to the former theory, but believed that septic peritonitis was certainly present also. In reply to a question from Dr. Wylie, he said that there had been perfect drainage.

EXPLORATORY PUNCTURE *versus* EXPLORATORY INCISION.

DR. HENRY C. COE read a paper with the above title. [To be published in a future number of this JOURNAL.]

The reader contended that the exploratory puncture of abdominal and pelvic cysts had fallen into undeserved disfavor. The microscope was an invaluable aid to diagnosis in many obscure cases, chiefly in malignant disease of the abdominal or pelvic viscera accompanied by ascites. When the instrument employed was the hypodermic needle, and not the aspirator, the dangers were not so great as they had been represented. An exploratory incision, on the other hand, was fraught with more risk to the patient than

was generally acknowledged, and should not be resorted to until all possible means of arriving at a diagnosis had been employed in vain.

DR. WYLIE agreed with the reader in most of his deductions, and believed that the hypodermic needle was frequently a valuable aid to diagnosis. But he added that he generally wished to be ready to operate immediately after puncturing a cyst, since alarming symptoms sometimes followed this procedure. He said that he could recall at least two cases in which death had resulted from the use of the hypodermic needle. In one instance, a distended gall-bladder was punctured; it was so tense that oozing occurred after the needle was withdrawn, and peritonitis resulted. In the other case, which was one of perityphlitis, a fatal peritonitis was produced by the oozing of pus through the track of the needle. He added that in an obscure case of perityphlitis, upon which he had operated during the previous summer, the sac of the abscess was so tense that, on opening the abdomen, the pus burst out even before a puncture was made. It would certainly have been dangerous to puncture such an abscess, unless one was ready to operate at once. He did not hesitate, however, to pass a fine needle through the vaginal vault into an intra-pelvic cyst.

DR. HARRISON concurred with Dr. Coe in most of his remarks, but he certainly thought that exploratory puncture might be followed by fatal results. He had once converted a simple dermoid cyst into an abscess by tapping it. In some cases the abdominal wall was so thick that an ordinary needle would not penetrate it. He thought that it was dangerous to interfere with an hematocele.

DR. HANKS thought that Dr. Coe had made a good point in insisting upon the importance of exploratory puncture in certain cases of suspected malignant disease. When ascites was present, and there was a suspicion of cancer of the abdominal viscera, it was better to withdraw the fluid, and then to make a careful examination, than to proceed at once to an exploratory incision.

DR. HUNTER did not believe that it was possible to establish a fixed rule that would suit every case. He instanced a case of his own in which a patient had been tapped twice before submitting to an exploratory incision. After the fluid was withdrawn the first time, a careful examination failed to reveal anything abnormal about the pelvic or abdominal viscera; after the second tapping, a small growth was felt behind the uterus. At the operation, extensive disease of the pelvic organs, omentum, and intestines was discovered. The patient died of shock on the second day after the operation. Dr. Hunter could recall some accidents following the introduction of the hypodermic needle into cystic tumors, and many from the use of the aspirator.

THE PRESIDENT remarked that in a recent case of suppurating dermoid cyst which had been pronounced by Dr. Thomas and himself probably a sarcoma, after opening the abdomen he had once plunged a hypodermic needle into the tense cyst, suspecting fluid, and found no pus to escape through the needle, but on withdrawing the needle, a drop oozed out through the puncture, and appeared on the exterior of the tumor. If this cyst had been punctured through the abdominal wall, the patient would certainly have died of peritonitis from purulent infection. He had found the hypodermic needle exceedingly useful in a number of instances; it had frequently saved the patient from an exploratory in-

cision, as in a case in which he withdrew a syringe of fluid, and found, on microscopical examination, that he had to do with a cyst of the liver, with which he, of course, did not interfere. He had met with the most satisfactory results in aspirating small intra-pelvic cysts, especially hydro-salpinx; he differed from Dr. Coe in regard to the constant presence of ciliated epithelial cells in the fluid from a *hydrops tubæ*. He thought that there was less danger in tapping an hematocele if the sac was subsequently laid open and thoroughly irrigated, as he had done in two instances with good results. In conclusion, he stated that he had that same day been deterred from opening a woman's abdomen for the purpose of removing a tumor, because, on aspirating the same per vaginam, he withdrew a serous bloody fluid, which was undoubtedly indicative of malignant disease. Once before he had made a diagnosis of pelvic abscess, to which both the history and symptoms pointed, but when the cyst was aspirated by the attending physician, sero-sanguinolent fluid was removed, which was pronounced by Dr. Heitzmann to be from a sarcomatous tumor.

Stated Meeting, March 16th, 1886.

The President, DR. PAUL F. MUNDÉ, in the Chair.

SPECIMEN OF ABORTED OVUM.

DR. HUNTER showed a product of conception discharged between the third and fourth weeks of pregnancy. Its true character was proved by the presence of distinct chorionic villi. He said that the patient in question had miscarried twice before at an early period, and, as she had an extensive laceration of the cervix, it was interesting to inquire if there was not some direct relation between the latter condition and the frequent abortions.

DR. SKENE thought that the specimen was a diseased ovum, since the chorion appeared to be much thicker than normal. He believed that a laceration of the cervix might lead indirectly to a miscarriage by causing an endometritis, which latter condition might produce an inflammation of the ovum, with resulting carneous degeneration. He thought that it was rather unusual that any patient in New York should be allowed to abort three times before an operation was performed upon her cervix.

DR. HUNTER explained that he had been endeavoring for a long time to prepare the patient for an operation, but that she became pregnant so soon after each miscarriage that there had been no chance to operate.

DR. SKENE asked how long it was necessary to wait after a miscarriage before operating upon a lacerated cervix.

DR. HUNTER replied that in the case under discussion he should wait about six weeks.

DR. POLK, in reply to a question from the President, remarked that he would operate as soon as involution was complete, *i. e.*, in from six to eight weeks; if the uterus still remained large, it might be well to reduce its size before operating.

DR. HUNTER said that he would not fix any precise limit, but preferred to be guided by the general condition of the patient.

DR. POLK asked if there was a posterior displacement in Dr.

Hunter's case. Dr. Hunter replied in the negative. Dr. Polk thought it hardly likely that a mere laceration of the cervix would in itself cause a miscarriage, unless there was an accompanying endometritis. If pregnancy occurred when the latter condition was present, there was usually a non-development of the vessels supplying the ovum, leading to atrophy of the chorion. The repeated miscarriages in the case under consideration undoubtedly pointed to some local pathological condition, probably to disease of the endometrium.

DR. B. EMMET stated that he had frequently remarked a direct relation between laceration of the cervix and abortion; a laceration that extended high up the cervical canal was especially liable to induce a miscarriage.

RUPTURE OF THE UTERUS—DEATH FROM SHOCK.

DR. POLK narrated the following case: About two weeks before he had been summoned to the Emergency Hospital to see a woman who had been recently brought in in a state of collapse. On examination, the presentation was discovered to be a left dorso-anterior, the child being dead. Internal version was easily performed, and delivery promptly effected. There seemed to be an extensive laceration of the cervix, but a thorough examination was not made on account of the weak condition of the patient. The uterus remained flaccid after the delivery of the child, and there was an occasional gush of dark blood. The organ was depressed from above, while its cavity was washed out by means of a Chamberlain's tube; the hand was not passed for fear of causing an additional shock to the patient, who was now almost pulseless. She sank rapidly and died within an hour after being delivered. From what could be gathered of her history, it seemed that she had borne several children before with little difficulty, and being very poor, endeavored to do without either a midwife or a physician. She had been in labor for forty-eight hours, when her neighbors, suspecting that something was wrong, reported her case to the police, and she was sent to the hospital. The rupture probably occurred at three o'clock on the afternoon previous to her entrance, at which time she had a succession of violent uterine contractions, after which the pains ceased entirely and did not return with any force. At the autopsy a large rent was discovered in the left side of the uterus, corresponding with the line of attachment of the broad ligament; it began at a point two inches above the *os internum* and extended completely through the cervix. The peritoneal coat was not involved. There had been an unusually large extravasation of blood which had extended between the folds of the left broad ligament, beneath the peritoneum covering the iliac fossa, and upwards behind the colon as high as the diaphragm; it could then be traced between the layers of the mesentery nearly as far as the small intestine. The question which would naturally suggest itself was, whether the rupture had occurred before he delivered the woman or had been caused

during the version and extraction of the child. The latter theory was negatived, not only by the condition found at the autopsy (the effusion of blood proving that the accident had occurred several hours before), but by the fact that the version was effected so easily. The patient's condition at the time of entrance was fully accounted for by the loss of blood; the additional shock caused by the delivery was enough to kill her.

DR. WYLIE said that he had recently seen a case in one of the medical wards in Bellevue Hospital, in which a rupture of the uterus could be clearly felt. The tear, which was on the right side, had partially healed, when septic symptoms appeared. Both the uterine cavity and the original rent were freely dilated, in order to allow of free drainage, the cavity being thoroughly irrigated. The patient had done perfectly well, her temperature being normal at the time of speaking.

DR. COE said that he had observed four cases of rupture of the uterus while in Vienna. One of the patients recovered, although she was nearly moribund when brought into the hospital, having been in labor for two days. After the child had been extracted, a large drainage-tube was passed through the tear into the abdominal cavity, and irrigation with a solution of carbolic acid was continued for several days.

DR. SKENE asked if the rupture had extended entirely through the cervix. Dr. Polk replied in the affirmative. Dr. Skene did not see why, from the position which the child's head had occupied, the cervix was so extensively involved. He asked if it was not possible that the latter might have been torn during the efforts at extraction.

DR. POLK was not sure as to this point, but he did not think that he was responsible for the cervical tear. The cervix had been drawn upwards and rendered very thin on the side next to the child's head. The autopsy, which was made six hours after death, did not throw any light upon the question.

DR. SKENE cited a case (terminating fatally) which he had observed about four months before in consultation with Dr. Jewett, of Brooklyn. After a fruitless attempt had been made to deliver by a high forceps operation, she was sent to the hospital. When examined, her uterus was found to be contracted, the placenta having been delivered, while the child had escaped into the abdominal cavity. Laparotomy was performed by Dr. Jewett and the child was extracted. The rupture was situated on the left side of the uterus in the middle of the broad ligament, the folds of which were separated. It extended down to, but not through the cervix. The question which was raised in that case was whether the laceration was due simply to the violent uterine contractions, or to unskilful use of the forceps. He inclined to the former view, as the rupture did not extend lower than the *os internum*.

DR. GILLETTE did not see how forceps could cause such an injury.

DR. SKENE said that, of course, they had been employed by one who was not accustomed to their use.

DR. PARTRIDGE remarked that he had seen two cases of rupture of the uterus, and did not understand how the accident could be caused by the forceps, unless the blades were introduced in a very clumsy manner.

DR. MURRAY asked if the position of the child was noted at the time of the operation.

DR. SKENE could not recall its exact position.

DR. MURRAY thought that if the tear had been produced by the forceps, the chances were that the head of the fetus would have remained in the opening.

In reply to a question from Dr. Murray, Dr. Skene stated that no attempt had been made to perform version.

A CASE OF ENDOMETRITIS FUNGOSA WITH AMENORRHEA.

DR. HUNTER reported the case of a patient whose menstrual flow was each month becoming more scanty. On curetting the uterine cavity a large number of fungoid masses were removed, some of which were of uncommon size. It was unusual, he thought, to find amenorrhea under these circumstances. In contrast with the above case, Dr. Hunter also mentioned one in which menorrhagia was a prominent symptom, and it seemed as if there must certainly be a fungous endometritis, yet none could be found.

DR. WYLIE asked about the general condition of the two patients.

DR. HUNTER replied that the latter patient was anemic, but the other was in fair health.

DR. WYLIE said that the cases were both exceptional ones. It was more usual to find fungosities with menorrhagia than the reverse.

DR. DAWSON asked if there was much hemorrhage in the first case during the operation. Dr. Hunter said that there was not.

DR. SKENE asked if these fungoid masses could be regarded as products of conception.

DR. HUNTER replied in the negative.

DR. B. M. EMMET asked how the amenorrhœa could be explained. Dr. Hunter could not give a satisfactory explanation. Dr. Emmet had observed fungosities in post-mortem specimens of uteri of women who had passed the menopause.

A CASE OF VAGINITIS DUE TO THE PRESENCE OF RED ANTS IN THE VAGINA.

DR. GILLETTE reported the case of a patient who applied to him, complaining of irritation of the vulva and vagina, accompanied by profuse leucorrhœa. On examination, the vulvo-vaginal mucous membrane was found to be much inflamed, and bathed in pus. Vaginal injections were ordered, but the patient objected to them, saying that they always made her worse. A few days later she reported again, and said that she had discovered the cause of her trouble, viz., red ants had taken up their abode in her fountain-syringe, and every time she used the syringe, the ants were poured into the vagina. Their bites undoubtedly caused the inflammation. He related the case merely to offer a new cause of vaginitis.

TWO CASES OF INTRA-CRANIAL HEMORRHAGE IN THE NEW-BORN.

DR. PARTRIDGE reported two cases, the histories being briefly as follows:

Case I.—B. McN., æt. 34, Ireland, Vpara; last menstruation, April 22d, 1885.

On Feb. 26th, 1886, she was delivered of a female child, after being in labor less than one and one-half hours. The weight at birth was six pounds ten ounces. The baby seemed a little fretful on the following day, and during the ensuing night it was quite restless, moaning incessantly for about four hours. There were no convulsions—general or partial—and no rolling of the eyes. The child refused to nurse after midnight. Several times it frothed at the mouth, but did not vomit.

When seen by the physician, at 11 A.M. on Feb. 28th, the following was its condition:

The child appeared to be quietly sleeping; face pale, eyes closed; no nystagmus or strabismus; pupils symmetrical, and moderately dilated; they did not respond in the slightest to direct sunlight; complete loss of sensation of the corneæ, with slight haziness, eye-balls motionless. There was so much bulging of the fontanelles that it was with difficulty that their bony margins could be mapped out. The thumbs were flexed on the palms, but there was complete relaxation of the muscles generally. The respiratory movements were almost imperceptible; a slight cyanosis was noticeable only about the finger-nails.

The pulse was of fair quality, and the surface of the body did not seem cold, although the rectal temperature was 96° F. Almost immediately on beginning artificial respiration, spontaneous respiration was resumed; but the intervals between the respiratory movements were long, and each inspiration was sharp, high-pitched, and "crowing."

Shortly before death, which occurred about five hours later, the infant vomited a little dark blood three times.

There had been no umbilical hemorrhage.

Autopsy.—March 2d, forty-two hours after death.

Weight just after death, five pounds fourteen ounces, which is a loss of twelve ounces in two days.

On opening the skull, a thick layer of coagulated blood was found under the dura mater, over the whole of the left hemisphere of the brain, over the occipital region and base of the brain, and to some extent over the right side. The brain was quite soft. The effusion apparently came principally from the longitudinal sinus. There were no thrombi. There was no hemorrhagic effusion into either pleural cavity; and the remainder of the examination was negative.

The family history was negative. On Feb. 7th, the mother sustained a severe shock in the sudden death of a son. Previous to

this, the fetal movements were vigorous; but subsequently, as she asserts, they became much more feeble. She was in wretched condition at the time of delivery, and an attack of eclampsia was feared. Some difficulty was experienced in diagnosing the fetal position (R. O. A.), on account of the indistinctness of the fontanelles, from which it would appear that, even at this time, there was some increase in intra-cranial pressure. There was no dystocia, and the labor was short, viz:

1st stage,	1 hour 7 minutes.
2d stage,	10 minutes.
3d stage,	6 minutes.
Total time,	1 hour 23 minutes.

Case II.—T. B., born Feb. 28th, 1886, at 12:30 A.M. Weight, 8 pounds 12 ounces. Well nourished. Forceps delivery, because head did not advance at all during second stage. Delay found to be caused by the cord being twice coiled around the neck, the placental extremity being very tightly stretched. A very large discharge of meconium followed the birth of the child, and a sharp hemorrhage commenced immediately. When the hand was introduced into the uterus found the placenta nearly detached, only the upper portion was still adherent to the fundus uteri on its right side. The child was cyanotic and slightly asphyxiated, but was revived in three or four minutes by artificial respiration; it did not cry much or loudly.

Vaginal examination of the head before etherization was unsatisfactory, in that the fontanelles could not be mapped out at all clearly.

After birth the fontanelles were bulging, and there was at times difficulty in detecting any pulsation over them.

The child presented the following symptoms: vomiting commenced on the first day, and afterwards became more frequent, and was decidedly projectile in its character. The matter ejected was a dark, grumous, viscid mucus; once only showing traces of blood when the child had a pretty free epistaxis.

For the first two days the child nursed regularly when put to the breast, but at no time did he nurse vigorously. After the third day he stopped nursing, but swallowed well until he was seized on the last day with tonic convulsions.

The urinary secretion was very scanty, and until the third day none was passed, except as it was voided in the bath; after this only a small quantity was passed.

The movements from the bowels were small in quantity but very frequent, and there appeared to be considerable pain with each movement.

Slight hemorrhage from the cord and from an abrasion over the left malar bone occurred on the third day.

From birth the child was very restless, and cried out frequently with a short, sharp, shrill cry. On the second day he commenced

a sort of automatic movement of the hands up to, and across, the face. On the third day when put to the breast, the contact of the nipple with the mouth caused a slight convulsive twitching of the face, and the child refused to nurse; this was soon followed by twitchings of the right side of the mouth and face. At this time there was noticed an oscillatory movement of both eyes, the pupils of which were moderately dilated and responded slowly to light; the conjunctivæ were also sensitive. Later, the pupils became minutely contracted and non-responsive. Respirations were shallow and frequent, and closely resembled Cheyne-Stokes respirations, there being a distinct cessation of respiration for a very short time. The facial muscular twitchings became more severe, and on the last day there were general convulsions, in which both eyes were crossed internally and rolled upwards, the head was drawn back and towards the right side, and there was a general opisthotonos, the extremities were strongly flexed, the thumb being flexed over and outside of the fingers, and the toes being strongly flexed, with abduction of each great toe.

At the close the spasms became tonic.

The temperature ranged quite high during the first twenty-four hours, reaching 101° F.; it became normal on the third day, but commenced to rise again on the fourth and reached $102\frac{3}{4}^{\circ}$ F. Twelve hours before death it was $102\frac{1}{2}^{\circ}$ F. Death occurred at 8.30 P.M., March 4th, from asphyxia.

Autopsy.—Fourteen hours after death. The child was considerably emaciated. The viscera of the body were found to be healthy, only a slight congestion of the lungs being noted. The urinary tract was normal, the bladder contained about one drachm of urine. In the kidneys, along the pyramids, there were noticed fine white striæ, otherwise they were normal. There was no hematoma under the scalp, but the tissues were very much discolored where the blades of the forceps had grasped the head.

Brain.—The cerebral veins, especially those under the pia mater, were very full, but there were no signs of any recent inflammation on the dura or pia mater. No organized clot was found in any of the sinuses. On raising the cerebrum, the tentorium cerebelli was seen to be very prominent and bulging; on cutting through this there was a free escape of dark disintegrated semi-fluid blood, in amount from two to four ounces. On close inspection, no signs of any injury to the bones at the base of the skull could be detected. On section of the cerebrum there was found a general congestion only. In the right lobe of the cerebellum was a cavity about the size of a small almond; this was filled with semi-fluid blood, and its walls were discolored. The substance of the cerebellum was softer than the cerebrum, and its convolutions were very much flattened.

In comparing the two cases, the speaker said that in both there had been slight hematemesis. Forceps were used in the second case,

but there was no evidence of effusion beneath the scalp or, in fact, of any external injury. In the first case the forceps were not applied—a fact which went to show that cerebral hemorrhage might occur in the new-born independently of any operative interference. A bulging of the fontanelles during labor was noted in both cases; pulsation after delivery was present in one instance.

TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF PHILADELPHIA.

Stated Meeting, Thursday, February 4th, 1886.

The President, B. F. BAER, M.D., in the Chair.

CASES OF LACERATION OF THE CERVIX UTERI WITH UNIQUE SYMPTOMS.

DR. CHARLES MEIGS WILSON.—The histories of the following cases are brought before the Society in order—first, to record what the writer believes to be unique symptoms of the lesion, and secondly, to elicit discussion in reference to the reflex nervous symptoms of the lesion, and, if possible, to draw the line of demarcation between them and the nervous phenomena of alienation. But a few years back we were given the doctrine, *ex cathedra*, that lack of contour of the cervix uteri was the principal cause of that train of nervous symptoms, of which the histories here cited contain unique examples. Prior to this, the clitoris was supposed to be the source of all the trouble. And now that spaying has become the fashionable surgical procedure, the ovaries have been given the precedence in the causation of the grave reflex nervous symptoms attendant upon pathological conditions of the pelvic viscera. Statistics have pretty well proven that, in a large majority of cases, destruction of the natural contour of the cervix has been the starting-point of pelvic distress in a large number of such cases. The subinvolution, with the subsequent conditions of prolapsus, hyperemia, hyper-genesis of tissue, ectropion of the cervical mucosa, and the inflammation set up by the friction of the everted cervical mucous membrane against the posterior vaginal wall which frequently occurs in neglected cases of laceration of the cervix, are undoubtedly the primary factors of pelvic irritation in many cases, and it is easy to see how this condition may set up pathological conditions of uterus, Fallopian tubes, and ovaries secondarily. To say precisely what is to blame is a very difficult matter. The following cases are selected from a large number operated

upon by Dr. E. Wilson in private practice, and by the author in the surgical wards of the Philadelphia Lying-in Hospital.

Case I.—Mrs. McF., æt. 32, married, mother of three children, presented herself at the clinic of the Lying-in Charity with the following symptoms: For the past year she had noticed a tumor, about the size of a small fetal head, in the right lumbar and the right half of the umbilical region. The tumor was perfectly smooth, non-nodulated, and freely movable in the abdomen. She had had obstinate constipation, a good deal of vesical irritation, at one time had had a sanguineo-purulent discharge from the vagina; this had entirely ceased for the last seven months. She complained of deep-seated, darting pain in the lower part of the abdomen, backache, intense cephalalgia, and photophobia. Her last child had been delivered fourteen months previously with instruments. She had been under the care of a prominent gynecologist, who had diagnosed floating kidney and recommended extirpation. After a careful examination, in which I was aided by several professional friends, the diagnosis previously made was concurred in. A careful chemical and microscopical examination of the urine failed to detect any abnormal constituent. It was then determined that laparotomy for removal of the kidney, or cutting down upon it and stitching in proper situ, would be alike unjustifiable. Upon making a more careful examination, including the uterus, the patient was found to have an extensive bilateral laceration of the cervix. The contour of the cervix was restored, and although the patient still has her floating kidney, all her distressing symptoms have ceased.

Case II.—Mrs. S., æt. 32, married, mother of two children, pelvis slightly contracted antero-posteriorly. Both children were delivered alive by forceps. This patient was sent me, by her regular attendant, with the diagnosis of cancer of the rectum. She suffered greatly from backache and headache, was constipated, passed ribbon stools, and had agonizing pain upon defecation. She had slight vaginal discharge, and a coffee-colored, foul-smelling, muco-purulent discharge from the rectum. Rectal examination revealed an ulcerated surface, extending apparently for about an inch and a half in length completely around the rectum, about three inches above the anus. Small portions of the granular surfaces of the ulcer revealed, under the microscope, no evidence of malignant growth. Specular examination of the vagina showed extensive bilateral laceration with acute retroflexion. The woman presented no evidence of cachexia. The uterus, though closely bound down by adhesions, was finally restored to its proper axis. After several weeks, the contour of the cervix was reformed. Simple astringent applications were made four or five times to the rectal ulcer. The patient made a complete recovery, and has had no return of symptoms since the operation.

Case III.—Mrs. C., æt. 22, mother of one child with history of

tedious instrumental labor. This patient suffered from violent ovarian neuralgia, augmented at the catamenial periods. She had a profuse leucorrhœa, engorged uterus, and enlargement of the right ovary. She also suffered at times from suicidal dementia, which was sometimes so violent that she required restraint. Her case had been diagnosticated pyo-salpinx and oöphorectomy advised. Examination revealed an extensive bilateral laceration of the cervix extending on the left side to the vaginal junction. The cervix was restored with complete cessation of all symptoms. Examination six months after the operation failed to find tenderness or enlargement of the right ovary.

Case IV.—Mrs. S., æt. 37, married, mother of five children. This patient had been incarcerated in a private asylum for fourteen months, suffering with violent dementia. She had the typical appearance of alienation. No clear history could be obtained of her symptoms, except that she had distressing pelvic pain and profuse leucorrhœa. Examination showed extensive laceration of the cervix. Trachelorrhaphy was performed, with immediate amelioration of the symptoms. Two months after the operation, she was restored to her family completely well. A year or more has elapsed since the operation in each of the cases, and the relief afforded has thus far been permanent. These cases appear to the author to have unique symptoms, following and consequent upon the lesion, though doubtless those with more extended chances of observation have met with cases presenting analogous symptoms.

DR. JOSEPH PRICE made some remarks upon the effects of cicatricial tissue in the edges and at the apex of the laceration, of the effect of laceration in inducing local engorgement and hypertrophy, and thus a long series of consequential symptoms. He spoke of the value of rest and local treatment for the relief of these symptoms, but the relief so obtained is temporary; it will last but a few months, and sooner or later, after the patient is discharged as cured, the same symptoms recur. If the cicatricial tissue is not all removed, and complete union secured throughout the entire thickness of the cervical tissue, the symptoms will return, or even be aggravated by the operation. In his experience, conception results after operation in young women.

DR. HOWARD A. KELLY remarked that he was glad to hear of the good results in Dr. Wilson's cases, as a year or more had elapsed. He thought cases of laceration of the cervix might be arranged in three classes: 1st. When the cervix, although lacerated, remains soft and flaccid, there will be no consequent symptoms. 2d. When cicatricial tissue is developed, or ectropion is present, marked reflex symptoms will ensue. 3d. When there has been natural repair, but with inclusion or formation of hard or scar tissue, there will also be marked reflex symptoms. To this latter class belong those cases, with hypertrophied glands and everted lips, of so-called erosion. These second and third classes must be relieved by rest and local treatment, and then operated upon to keep them well. Complete removal of the hard tissue, and perfect union of the coaptated edges, must be secured. Failure in either of these points will cause a return of the symptoms.

DR. BAER remarked that the symptoms were not due to the laceration, but to its inflammatory consequences. To secure a good result, the inflammatory condition must first be subdued, and then the operation of closing the laceration will be in order. It may take a long course of treatment to secure this necessary condition, but operation will probably fail to secure the desired relief without the preparatory treatment. He had found in some of these unsuccessful cases union of the external surface only, and in others fistulous tracts between the suture points. Cicatricial tissue seems to be sometimes formed after operation, when union occurs by granulation. Simple laceration without ectropion is very rare, and he would advise repair of the laceration in all cases to prevent future resultant inflammatory conditions. It is desirable to have union by first intention to avoid formation of cicatricial tissue and suture track fistules.

DR. WILSON spoke of the choice of method in preparatory treatment. Local treatment once a week will often fail to have a good effect, when a week or ten days in bed, with douches of hot water and glycerole of tannin on pledgets of cotton, applied daily, will accomplish rapid relief of the local condition. Great care should be exercised in the removal of tissue, as complete closure of the cervical canal may happen. He has seen two such cases, which were detected at the next menstrual periods after the operation. The passage of a spear-pointed probe gave vent to dark grumous material.

DR. HOWARD A. KELLY exhibited a specimen of

HEMATOMA OF THE OVARY WITH ADHERENT FALLOPIAN TUBE.

This specimen is an example of a class of cases which stand peculiarly by themselves—cases of aggravated tubal and ovarian disease, on a small scale as compared with ovarian cyst, and yet in which there is enough change in the size and consistency in one or more of the structures of the appendages to afford most satisfactory ground for diagnostic precision under skilled bimanual examination. These cases occupy a middle ground between the larger tumors, where disease is so palpable, and those hap-hazard attempts, the present reproach of gynecological surgery, in which the operation upon appendical structures is undertaken to relieve a *symptom*, and the diagnosis of pathological ovarian or tubal change is made after removal, or not at all.

This is the right ovary of a patient, 21 years of age. It is about the size and shape of a large Spanish chestnut. I was able to handle it freely by bimanual examination, and determined exactly its size, shape, consistence, and relations before operating. The indications for operative interference, after I had made my diagnosis, were greater than in the case of any large ovarian cyst I have ever seen, and the prospects and result of any form of palliation were futile. Almost the whole of this large ovary is filled with a blood-clot, soft and jelly-like in part, and in part firm, fibrous, and apparently intimately united to the ovarian stroma. This clot is surrounded by a shell of apparently normal ovarian tissue,

throughout which are seen a number of follicles and old corpora lutea. A remarkable feature is the way in which the fimbriated extremity of the tube is spread out like a sucker over the surface of the ovary, and glued fast by adhesions, so that the line of demarcation between tube and ovary is but faintly indicated. From the line of junction numerous vessels course in a radiating manner down over the ovary. The left ovary is below normal size, but contains many pea-sized black clots.

The second specimens which I now exhibit were removed this afternoon. The case is an example of the third class, in which the operator has nothing but a symptom to guide him. My patient, 35 years of age, suffered from an increasing menorrhagia for fourteen years. Lately she has been bleeding half the time. She has had recourse to every possible plan of treatment with but slight and temporary relief. The only thing I could do was to perform oöphorectomy and stop her menstruation. One ovary weighs one hundred and thirty-nine grains, and the other one hundred and three grains. A beautiful corpus luteum of menstruation, about two and a half weeks old, shows that the hemorrhages, which retained all along a menstrual periodicity, were in reality menstrual. The tubes are free from disease. In one ovary a globular pellucid cyst lies between the layers of the broad ligament, in close proximity to the fimbriæ, the tubo-ovarian ligament being spread out over its surface.

DR. WILSON called attention to the fact that in the first specimen the tube had been occluded by a torsion or twist upon itself.

DR. BAER remarked that it would be interesting to know the results in Dr. Kelly's last case. In such a case there is of necessity a cause for the hemorrhage; there is no apparent diseased condition of ovary or tubes sufficient to account for it. Hemorrhages from the uterus are often associated with vegetations upon its lining surface, but these are not always present. He alluded to one case in which hemorrhage continued to be profuse after the removal of the tubes and ovaries which had been very much diseased.

DR. PRICE remarked that in this last instance the continued hemorrhage might be the result of body-habit, although the original cause might be removed.

DR. HARRIS spoke of a case of fibroid tumor of the uterus with menorrhagia, in which removal of the tubes and ovaries gave complete relief.

DR. KELLY had eight months ago removed both ovaries and tubes, and the menorrhagia still continues. In the case operated upon to-day, the curette had been used, but no vegetations had been found. A strong tincture of iodine applied thoroughly to the inside of the uterus, and vaginal packing would quickly stop the hemorrhage for the time, but it would soon recur. Operation was performed to relieve the symptom hemorrhage by bringing on the menopause, and not because the ovaries were supposed to be diseased.

DR. J. PRICE exhibited specimens from a case of

PYO-SALPINX.

The tube was as large as the finger and cheesy in consistence, and was easily broken, even by the bite of the hemostatic forceps. The patient was in a typhoid condition with high evening temperature, emaciation, quick pulse, pain in locomotion. There certainly had been leakage of pus before, but two ounces escaped at the time of removal. Adhesions were numerous but were cheesy and broke down readily. After the operation there was rapid subsidence of the pulse and temperature with the other symptoms. Free washings of the abdominal cavity through a drainage tube were practised for a few days. There was a clear history of gonorrhea. The other tube and ovary were not enlarged.

DR. BEATES remarked that in one case upon which he had operated, repeated attacks of peritonitis had caused large deposits of flaky lymph in Douglas' cul-de-sac. These were nicely removed by sponging.

DR. BAER raised the question of the gonorrheal origin of the salpingitis in Dr. Price's case which was unilateral, while gonorrhea usually causes both tubes to become diseased.

DR. PRICE stated that Dr. Tait's new book reported a gonorrheal case of unilateral salpingitis. Comparing with the male analogue, epididymitis, which is usually unilateral, would support the idea of such an origin. A free leakage of secretion from the tube, and absence of constriction may prevent the accumulation of pus on one side.

DR. BEATES exhibited specimens from a case of

DIFFUSED SARCOMA UTERI WITH METASTASIS TO LIVER AND LUNGS.

The patient from whom the specimens were obtained was in excellent health until the development of this affection. *Æt.* 59. Catamenia established during her 16th year without undue disturbance. She has had four children and no miscarriages or pelvic disease during her sexual life. There is no evidence of heredity toward myoplastic disease. Menopause at age of 48, without incident; about five years later a hemorrhage occurred lasting a few days. It recurred with decided regularity, and the patient, believing it to be menstrual, did not have recourse to treatment until an intermenstrual sero-sanguinolent discharge appeared. Later this assumed a purulent type and was accompanied by constant pain. The condition was now regarded as carcinomatous. In June, 1885, I found the patient emaciated, cachectic and weak; digestion was impaired, and the stomach irritable. Local pain was intense with nocturnal exacerbations; there was also incontinence of urine and its consequent intertrigo. The vagina was so occluded with numerous neoplasms, varying in size from mere nodules to the size of an olive, that an examination of the uterus was impracticable. Some of these were pedunculated. There was an offensive ichorous discharge; bleeding occurred upon the slightest touch. The history was one of progressive asthenia. The *autopsy* by Dr. Formad disclosed the

pulmonary apices and inferior posterior margins to be the seat of nodular masses. The surface of the left hepatic lobe was the seat of two deposits which simulated encephaloid carcinoma. The lymphatic glands were perfectly normal. The uterus was enlarged about one-fourth, and its attenuated walls were easily torn; upon opening it, it was found to be almost entirely destroyed by ulcerative processes which were most marked near the fundus. The cavity of the pelvis was occupied by the morbid mass and the vagina entirely destroyed. The bladder was not involved, but the urethra was sloughed through. Rectum free. The microscope showed a small-cell sarcoma. The pathological laws of which this is an illustration possess especial interest regarding treatment. It is now well known that neoplasms originating in areas that have developed from either the epi, meso, or hypoblast possess certain specific life histories, and while all may closely resemble each other in their incipency, differ widely, not only in their course, but ultimate results, as they continue to exist. Thus epithelioma of epiblastic structures is local and not subject to metastasis, while the hypoblastic epitheliomata are permanently metastatic. Mesoblastic neoplasms are of connective-tissue type and, in large-cell forms, local, while in small-cell varieties metastatic. Epitheliomata undergo metastasis through the lymph channels; sarcoma by means of the blood-vessels. Either of these diseases when first becoming active, there is good reason to believe, is local, and before retrograde changes occur, can, by total removal of the organ involved, be radically cured. As sarcoma, and especially its small-cell variety, is especially prone to metastasis, its early recognition is a matter of paramount import. In this case its early evidence was mistaken for carcinoma, and from a clinical standpoint alone such an error is unavoidable, but as the discharges contain portions of the neoplasm, readily recognized by the microscope at a time when metastasis has not occurred, its diagnosis and treatment are a matter of simplicity. The later symptoms, absence of lymphatic involvement, and comparatively slow course enable one to know that he is palliating the suffering from a sarcoma.

TRANSACTIONS OF THE GYNECOLOGICAL SOCIETY OF CHICAGO.

Meeting, January 15th, 1886.

The President, DANIEL T. NELSON, M.D., in the Chair.

DR. CHARLES WARRINGTON EARLE read a paper entitled:

THE WATERY DISCHARGES OF PREGNANT WOMEN.

Mrs. F. K. consulted me for a profuse watery discharge which had taken place several times during her pregnancy, commencing at the third month. She was the mother of three children, and had always been free from any marked pelvic disease. The first discharge was clear and watery, and she estimates the quantity at about two quarts. This came away in gush, most of it being discharged at once, although there was a slight loss for some days thereafter. At first it was thin and clear, then slightly thicker, of the color of weak coffee. These discharges seemed to occur every two or three weeks, and were frequently attended with considerable pain. There was a decided diminution in the size of her abdomen after each discharge.

On October 30th, I found her in great pain, and examination demonstrated that the fetus was very low in the pelvis, and apparently not surrounded with any *liquor amnii*. The *os uteri* was neither soft nor dilated. She was ordered anodynes and to remain in bed. On the 7th of November I again saw her, and found she had been having more or less pain since my previous visit. There was no dilatation. Two days after, however, she was delivered, her gestation having lasted about two hundred days. The child lived about one hour. She made a good recovery, and resumed her place in the family in the course of two weeks.

Mrs. M., 27 years old; in her ninth pregnancy. At the end of five months she commenced to have a flow of fluid which continued until the end of the seventh month, when she gave birth to twins, one living and the other dead. There was no escape of *liquor amnii* at her confinement. The same lady, in her eleventh pregnancy, commenced to lose fluid at the end of the seventh month, which continued until the completion of the full term, when she gave birth to a healthy child. She had what her attendants called a dry labor.

Mrs. D. W. R., aged 31, the mother of nine children, has been pregnant since the 1st of July, 1885. On November 20th, she said to a friend who was at her bedside that she was flowing, and asked to be supplied with a napkin. A sheet folded and placed under the patient was thoroughly saturated with fluid; the discharge

being equal probably to at least two pints. She had severe pains, which simulated those of labor, lasting a few hours. On December 15th, she had a similar discharge. The future of this case is yet to be decided.

Frequency.—These cases evidently take place with more frequency than we have, up to this time, supposed; but the older obstetric authors have noticed peculiarities of this kind, and given very fair descriptions of the complication.

Smellie says (page 179, Vol. II.): "Dribbling of fluid may go on for weeks, but a sudden gush is invariably followed by parturition; the longest interval between a sudden gush and labor being seven days." In this he is certainly mistaken, as the history of many recorded cases and some of mine will demonstrate.

Denman, 1815, says: "Instances have been recorded in which the waters of the ovum are said to have been voided as early as the sixth month of pregnancy without prejudice either to the child or the mother. The truth of these reports seems to be doubtful, because where the membranes are intentionally broken, the action of the uterus never fails to come on. A few cases of this kind, somewhat similar, have occurred to me. A discharge of colorless fluid takes place daily from the vagina for several months preceding labor, which is due to the rupture of some lymphatic. Such labors are usually premature and the fetus small."

The same authority also cites a case where, after the delivery of the placenta several pints of lymph were discharged.

Burns, 1822, page 238, says that the discharges of watery fluid from the vagina are not infrequent, and generally depend upon the secretion of glands about the cervix, the rupture of lymphatics, or from fluid collected between the chorion and amnion, or water from blighted ovum in the case of twins.

Dr. Pentland relates a case where coughing produced a discharge, the water being discharged at the fourth month; but labor only occurred at full term.

Merriman, in his work entitled "Difficult Parturition," 1826, relates the case of a lady—six months pregnant—from whom a profuse watery discharge occurred. She summoned a physician, who assured her that if pains came on she would soon be delivered. She continued, however, to the end of pregnancy, having a profuse discharge each day. At full term she was delivered, her attending physician rupturing a bag of waters which appeared in no way different from usual cases. No opening was discoverable in either the placenta or the membranes, and he concluded that the discharge must have come from the outside of the membranes.

Chailly, edited by Bedford, 1844, gives a rather full account of hydrorrhea, the description not being different from those I have already related. He says, however, that these discharges are more frequent than are generally supposed, but makes the erroneous statement that in nearly all these cases pregnancy is carried along to its full term.

Nearly all modern authors devote a short section to the consideration of this subject, giving different names, as their ideas of its origin and pathology are different.

Three separate pathological conditions seem to be, in many cases, confounded, and I see no way by which a differentiation can be made.

1st. A discharge of the *liquor amnii*.

2d. Discharges from increased glandular action.

3d. A possible collection of fluid between or outside of the membranes, and its irregular evacuation.

In my teachings I have been in the habit of speaking of hydrorrhea, but never, up to a few months ago, had I seen a marked case. A study of this case with others collected from my own experience, and the perusal of the article written by Dr. Thomas C. Smith, of Washington, D. C., which appeared in the AMERICAN JOURNAL OF OBSTETRICS in May, 1885, has caused me to go over the subject carefully and to present what I can obtain from the authorities in regard to these peculiar discharges.

Great numbers of cases have been recorded, but no one, up to this time, has demonstrated conclusively the source of the flow.

The etiology of these discharges has been the subject of very different opinions by different obstetric authors.

Chailly says that authors have attempted to show that these discharges are due to the accumulation of fluid between chorion and amnion; to rupture of lymphatic vessels; to transudation through amniotic membranes; to rupture of the membranes at some remote point from the orifice of the uterus, and finally to dropsy of the womb.

Lusk says the pathological processes involved in the disease are vascularity, hyperemia, and hypertrophy of the interstitial connective tissue, and of the glandular elements of the decidua.

Barnes, in the "System of Obstetric Medicine and Surgery," 1885, says in regard to these discharges, without entering into a critical discussion of the several theories, that it seems to be well established that there are five sources from which this fluid may come:

- 1st. A discharge from the cervical canal.
- 2d. The decidual origin.
- 3d. Transudation through the amniotic membranes.
- 4th. Hydatidiform degeneration of the ovum.
- 5th. Cauliflower excrescences.

The differential diagnosis must rest between the following similar discharges:

- I. From the discharge from hypertrophied cervical glands.
- II. Fluid collecting between chorion and amnion, occurring only once.
- III. Escape of fluid from amniotic cavity.

I. The fluid escaping from the hypertrophied glands must be small in quantity, and we would expect that it would continue for a considerable length of time. There would be no diminution in the amount of *liquor amnii*, and the child would be found floating in the usual amount of fluid.

II. If the fluid collected between any of the membranes, and adhesive inflammation around it followed, a considerable amount of fluid might collect, and the discharges would be considerable at once, and might or might not be repeated. In such a case there would be no evidence of escape of true amniotic fluid, although there might be a lessened size of the abdomen.

III. Where the *liquor amnii* escapes, there would be a greater tendency to uterine contractions; a more perceptible diminution in the size of the uterine tumor, and a microscopical or chemical examination would certainly reveal some evidence of urine, as we know this exists in variable quantities in the *liquor amnii*.

Transudation through the amniotic membrane, although recently noticed by Barnes, and mentioned by older authors, would give rise to the discharge of a very small amount of fluid.

This could hardly be differentiated from a slight discharge taking place from the cervical glands. Fluids discharged from hydatidiform degeneration of the chorion or from cauliflower excrescence would be so associ-

ated with the diseases which cause them that the diagnosis would not be difficult.

Prognosis.—As far as my observation goes, the life of the woman is not jeopardized, but she suffers from the constant discharge and becomes anemic. The pain is sometimes severe, as I have before remarked, and the patient is full of gloomy forebodings and anxious in regard to the final result.

The fetus is usually born prematurely, and, in many cases, only lives a short time.

The treatment must necessarily be very simple—rest and anodynes being about all that can be suggested.

DR. H. P. MERRIMAN.—Mr. President, I had one case of this kind about a year ago. The woman had a sudden gush of water when she was not quite five months pregnant. I thought it might presage labor, and told her to let me know of any symptoms of labor—that I expected it would come on. But she felt better after having the gush of water. She had, in the course of two or three weeks, another, and said she could tell when they were coming on, because she felt so full before they came. When the second came I began to think that perhaps she was not going to have labor at the present time after all; that it probably was not a loss of the amniotic fluid, and I examined her and found the os not dilated. I could feel, however, by carefully introducing my finger, that there was water still remaining there—the amniotic bag remaining apparently intact. I gave her opiates, thinking that labor might possibly be prevented. She went along for nearly a month after that, before she finally miscarried. She had three separate gushes of water at intervals of two or three weeks before her miscarriage finally came on. The fetus had perhaps a little over six months of intrauterine life at the time of its expulsion.

It strikes me that we might learn, by careful examination of the placenta and membranes after delivery, a great deal more than we have yet learned about this subject. I cannot help thinking that there must be some defect in the fetal envelopes to have a thing like this occur. It could not have been a rupture of the amnion, but there may have been a separation between the amnion and the chorion, as I have seen in one other case in my own practice, in which the infant or fetus enveloped in the amnion came away, leaving the chorion within the uterine cavity. And we had a similar case presented to the Society a year ago, by Dr. Sawyer. The amnion had been separated from the chorion, and came away intact by an effusion of liquid between the chorion and amnion. Now, if that takes place, why of course there may be a separation in part and then adhesion again after the occurrence of the rupture. Any gush of this kind indicates, to me at least, some disturbance of the fetal envelopes, either of the chorion or amnion, or a cystic degeneration of the placenta; and it strikes me that in every case of this kind the placenta and membranes ought to be carefully observed after the delivery, to see what pathological cause brought on the abortion.

I would like to state, in addition to my case, that the woman finally had her miscarriage quite suddenly. I was not present, and another physician was called.

THE CHAIRMAN.—I would like to ask a question as to whether there is any specific cause operative in the production of these cases. Whether syphilitic or gonorrheal infection may have anything to do with it, and also whether inflammation of the mucous membrane of the uterus precedes these causes. Is it, in other words, an acute or chronic inflammation of the mucous membrane that causes it?

DR. HENRY T. BYFORD.—I have nothing to add, except that Dr. C. R. Parke, of Illinois, reported a case to me, in which the discharge of the *liquor amnii* took place, labor pains came on, and the umbilical cord became prolapsed. He replaced the cord and gave ergot. As labor did not progress, he finally gave morphia and quieted the pains. In three months the woman was delivered of a living child; mother and child did well.

DR. H. P. NEWMAN.—I saw a single case; the discharge, however, was greater than in the cases related, and came on about six weeks previous to the abortion; the membranes were not examined.

DR. W. W. JAGGARD said that he had listened to the reading of Dr. Earle's paper and the discussion with great interest. He could not, however, agree with the author of the paper in considering the pathology of *hydrorrhea uteri gravidi* as obscure and confused in all its details. Carl Braun (*Zeitsch. d. Ges. d. Wiener Aerzte*, 1858, No. 17, p. 257) and C. Hennig (*Der Katarrh der inneren weiblichen Geschlechtstheile*, Leipz., 1862, p. 48) had clearly and distinctly described the pathological anatomy of the condition. Chronic decidual endometritis may terminate in the formation of new connective tissue, or may manifest itself by the production of a yellow, sero-albuminous fluid, variable in quantity, which accumulates between *decidua vera* and *reflexa*, or when *vera* and *reflexa* are united, between decidua and chorion. Carl Braun accordingly considers the condition to be a *serous endometritis*. Hennig aptly terms it *catarrhal decidual endometritis*. Catarrhal decidual endometritis must be distinguished from collections of fluid between the amnion and chorion, the so-called amnio-chorial water. Bischoff has designated the unorganized, albuminous fluid uniting chorion and amnion as the *tunica media*. The quantity of this fluid may increase abnormally, at the same time that its consistency is diminished. McClintock describes a case, referred to by Spiegelberg, in which the amount of "amnio-chorial water" was so great as to simulate hydramnios. The "amnio-chorial water" may be discharged without the interruption of pregnancy, but then the discharge of fluid is not repeated as in the intermittent discharges of *hydrorrhea uteri gravidi*. Labor always follows the rupture of the amniotic sac—a fact which establishes the possibility of a differential diagnosis in the large majority of cases. It is unusual for labor to be prematurely induced by the discharge of the "amnio-chorial water," or collections of catarrhal secretions between chorion and decidua.

A condition strictly analogous to *hydrorrhea uteri gravidi* is frequently observed in uterine fibroids. The intermittent discharge of a yellowish sero-albuminous fluid from the uterine cavity is a symptom of such frequent occurrence in this condition that attention is directed to it by most systematic writers.

With reference to the etiology of *hydrorrhea uteri gravidi*, there were several facts of practical import. Any antecedent endometritis—gonorrheal, syphilitic, or of other origin—is an adequate etiological factor. Hydremia appears to favor the development

of the condition. The coincidence of hydremia with catarrhal decidual endometritis would certainly indicate the exhibition of chalybeate tonics in the treatment of the latter affection.

He fully agreed with Dr. Merriman in attaching great importance to the critical examination of the fetal envelopes in order to clear up a doubtful diagnosis.

DR. EDWARD W. SAWYER called attention to the fact that watery discharges from the uterine cavity frequently occurred during the *puerperium*.

He thought that the condition, technically termed *hydrorrhea gravidarum*, was due in all cases to the transudation of the amniotic fluid. This was the opinion ably advocated by Charpentier.

DR. W. W. JAGGARD thought Dr. Sawyer had not quoted Charpentier correctly. Charpentier mentions Stapfer's recent monograph (*Thèse de concours*, 1880) in flattering terms; enumerates the various hypotheses proposed by a large number of observers, and says the German theory, already referred to, is the most probable.

DR. CHARLES W. EARLE.—I have but very little to say, Mr. Chairman, in closing the discussion. It seems to me, however, that there is one thing, at least, that we should learn from our consideration of this subject this evening. It seems to be impossible for any one to determine the exact source from which a considerable amount of fluid is occasionally discharged from the vagina of a pregnant woman. We do not know whether this fluid comes from the amniotic cavity or external to it; therefore, we should not give ergot or commence the dilatation of the *os uteri* after a watery discharge, believing that labor must come on, because from the testimony we have received here to-night, and from other evidence, it does seem that even if the *liquor amnii* is prematurely evacuated in a few cases, pregnancy may go on to full term.

My attention has been called to the phenomenon mentioned by Dr. Sawyer, and if I had not desired to make my paper as brief as possible, I should have spoken of the watery discharges which occasionally take place after labor. I have never seen a case, but it is mentioned in the literature, and it is believed by those who have written upon the subject that the fluid in these cases comes from either the large lymphatic vessels, or perhaps from a continuation of the same disease which produced the discharge before. The doctor is certainly not quite in accord with the majority of authorities when he says that the discharges of pregnancy always come from the cavity of the amnion.

DR. EDWARD W. SAWYER.—No; but the term "hydrorrhea" should be reserved for that class of cases.

DR. EARLE.—This is not hydrorrhea, as I understand it. This term should be applied to a discharge of fluid from outside of the amniotic membrane; perhaps not from outside of the chorion, but certainly from outside of the amnion.

DR. E. J. DOERING read a paper entitled:

REPORT OF A CASE OF HYDATIDIFORM PREGNANCY.

After a brief discussion of the etiology and pathology of cystic degeneration of the chorionic villi, Doctor Doering related the history of the following case:

Mrs. W. D. P., a cultured lady, of slender physique, twenty-one

years of age, was attended by me in labor fifteen months ago, and delivered by instruments of a healthy boy weighing ten pounds. Her general health has been good. She has had no miscarriages either previous to or since the birth of her child. Her last period occurred during the latter part of October, 1885. During the month of November the catamenia remained absent, which she attributed to a cold, the idea of pregnancy not occurring to her as she had none of the usual symptoms. During the month of December, and particularly during the week preceding the holidays, she was on her feet constantly, although not feeling well, having sensations of chilliness, followed by a feeling of heat and general depression. On the Sunday before Christmas, a slight and painless flow of blood commenced, believed by her to be the period now four weeks overdue. The flow continued several hours and then ceased. On Christmas day, while seated at the dinner-table, she was suddenly attacked with a profuse hemorrhage, the blood saturating the floor, and continuing until a degree of faintness was produced, in which condition I found her on my arrival a few minutes afterwards. The hemorrhage, which had been entirely without pain, ceased suddenly. A careful examination confirmed my suspicion of pregnancy, although I was much surprised at the size of the uterus, corresponding to a four and one-half months' pregnancy, the fundus rising nearly midway between the symphysis pubis and the umbilicus. There being no further hemorrhage, no pain and no dilatation of the os, an expectant plan of treatment was pursued by instructing the patient to keep in bed, enjoining absolute rest, and giving her a few doses of morphia. On the following night, another hemorrhage occurred, but of not much consequence, and requiring no interference. Two days later, on the morning of the 28th of December, another hemorrhage took place, more copious than the last one, but still unaccompanied with pain. An examination showed slight dilatation of the os, but not sufficient to permit the recognition of the contents of the uterus. As the patient was beginning to show decided symptoms of anemia, the vagina was tamponed and ergot administered to check the hemorrhage and favor uterine contractions.

Uterine pains soon commenced, accompanied by considerable hemorrhage; the os dilated fully one inch, the presenting part giving the sensation to the finger of a blood-clot. This was soon expelled in detached portions, and on removal from the vagina was readily recognized as a hydatiform mole, having all the characteristic appearance of a grape bunch, composed of a mass of translucent vesicles, about the size of currants, containing a clear, limpid fluid. After inserting two fingers into the uterus and emptying it as thoroughly as possible of all the diseased tissue, the hemorrhage promptly stopped. The entire mass removed equalled about the size of a large orange. Some febrile reaction occurred, but for several days the temperature did not exceed $100\frac{1}{2}^{\circ}$ F. and

the pulse 95, the treatment consisting of quinine and ergot internally, and the use of uterine and vaginal injections of carbolyzed water.

On the beginning of the fourth day, the patient was suddenly seized with a severe chill, followed by the usual symptoms of septic poisoning, high temperature ($104\frac{1}{2}^{\circ}$ F.), rapid and feeble pulse, superficial respiration, great tympanites, thirst, vomiting, and arrested lochia, with no pain or tenderness over the abdomen. The outlook was anything but promising, but the prompt administration of large doses of quinine, combined with diaphoretics, turpentine stupes, warm fomentations, and the continued use of antiseptic injections was followed by the most gratifying results, and after four days of great anxiety the patient had recovered sufficiently to be declared out of danger. At the present time, eighteen days since the expulsion of the mole, the patient is up and about the house, with a good appetite, and making preparations to leave in a week or two on a journey to the South.

DR. CHARLES WARRINGTON EARLE.—I have seen two cases of this kind, and while I have been surprised a great many times in my practice, I was never more so than upon one of these occasions. I had been in practice about two years, when I was called to attend a lady in confinement near my residence. I found the *os uteri* well dilated, with the membranes intact and well down in the vagina, when all at once there came a gush of something, and a large quantity of these grape-like bodies made their appearance. I immediately gave ergot and cleared out the uterine cavity, and took the first opportunity to repair to my study to seek an explanation of this, at that time, to me a strange phenomenon. The case was eventually made the subject of a little article which appeared about that time in the *Chicago Medical Examiner*.

The lady was anemic, and made a slow but perfect recovery. She has enjoyed good health since, but has never again become pregnant.

DR. HENRY T. BYFORD.—I had an opportunity to see this specimen, and it was very much like a bunch of grapes in shape, although Barnes, I believe, claims there is no such resemblance. But he bases his views upon the fact that the vesicles are developed from each other instead of from a common stem.

In regard to the treatment, I think it would now be considered best to scoop out the uterus to prevent septicemia, and so it would be, if that could be easily done. From inquiry of Dr. Doering, I understand the opening in the cervix was rather small, the body anteverted, and it would have been necessary to use an instrument in removing the mole. I have seen severe inflammation, in the broad ligaments, result from curetting the uterus after abortions, with the dull curette. Therefore, I think it is a point of interest well illustrated in this case, that it is not in every instance the proper thing to do; especially when so much has been passed that there is pretty firm tonic contraction of the uterus.

DR. H. P. NEWMAN.—I understood Dr. Doering to say he used ergot. This might explain the fact of finding the cervix closed.

DR. DOERING.—I would like to ask Dr. Earle whether he discovered any trace of the fetus.

DR. EARLE.—I did not in my case, but there is a specimen in the museum of the College of Physicians and Surgeons in which the fetus is one and one-half inches long.

DR. CHARLES CALDWELL.—I met with one case in my practice last fall. October 10th, I was called early in the morning, the messenger informing me his wife was having a miscarriage. I found my patient flowing quite profusely. She supposed herself five months pregnant, as she had not menstruated since May.

The last week in July, she flowed slightly for two days. The 12th of August, the flow commenced again, and was so profuse that she went to bed and called a physician, who diagnosed her case threatened abortion, and treated her accordingly, keeping her in bed two weeks. From that time until the hydatiform mole was expelled, the flow never stopped completely, for a single day, but she passed no pieces of the mole. The os was soft and easily dilated. I introduced two fingers into the uterine cavity and removed its entire contents. The mass was too large to be removed intact, and the os was not sufficiently dilated. As I removed each piece the uterus contracted well and firmly, diminishing the size of its cavity rapidly, so I was sure when it was empty.

The lochial discharge kept up for three days. She remained in bed one day; but the next morning prepared her husband's breakfast, and has attended to her household duties since. There were no symptoms of septicemia following. The broken mass would have filled a two-quart measure. Some of the cysts were as large as a bean. I gave Professor Jaggard a specimen to show his class. No fetus could be found in the mass. Small doses of ergot were given for a few days. Menstruation was established in December, and the patient is now strong and healthy.

The inaugural thesis of Dr. F. E. WAXHAM, M.D. (Chicago Medical College, 1878), entitled:

INTUBATION OF THE LARYNX, WITH HISTORY OF CASES,

was read by the Secretary, Edward W. Sawyer, M.D.

Dr. Waxham described Dr. O'Dwyer's method of intubation of the larynx, narrated the histories of seventeen cases, in which the method had been employed, and drew the following conclusions:

"Intubation of the larynx possesses many advantages over tracheotomy:

"1. No opposition is met with on the part of parents and friends; quite a contrast to the difficulty with which we usually meet in obtaining the consent to tracheotomy.

"2. It relieves the urgent dyspnea as promptly and effectually as tracheotomy, and if the child dies there is no regret that the operation was performed, and no discredit is attached to the physician.

"3. There is less irritation from the laryngeal tube than from the tracheal canula. As the tube is considerably smaller than the trachea, it does not press upon it firmly at any portion excepting at the chink of the glottis.

"4. Expectoration occurs more readily than through the tracheal tube.

"5. As the tube terminates in the throat, the air that enters the lungs is warm and moist from its course through the upper air passages, and there is less danger of pneumonia.

"6. It is a bloodless operation.

"7. It is more quickly performed and with less danger.

"8. There is no open wound that may be the source of constitutional infection.

"9. Convalescence is more rapid, as there is no ghastly wound to heal by slow granulations.

"10. The patient does not require the unremitting care of the physician, as in tracheotomy.

"11. I believe it to be a more successful method of treating croup, either diphtheritic or membranous, than tracheotomy.

"The only objection to the operation of intubation is the difficulty of its performance."

DR. CHRISTIAN FENGER.—Mr. President, this is a subject of exceeding interest, and deserves great attention. Tracheotomy is one of the few operations that always make me nervous. That this operation is attended with some danger there is no question. There is danger from hemorrhage during and after the operation, and there is some danger of shock, which, in cases where there is no membranous laryngitis, sometimes can be traced only to the operation. For instance, I, years ago, went to make an examination of an old man who had swallowed a little fish-bone, that had got into the mucous membrane in the entrance of the larynx, during dinner. Edema of the glottis necessitated tracheotomy, which was performed without an anesthetic. There was no hemorrhage, the dyspnea was relieved, but the man died about twenty-four hours afterwards from the shock or disturbance attributable only and alone to the operation. In other cases, hemorrhage, even under great care in the operation, cannot always be avoided. I have had two cases of such hemorrhage where the patients have died—one in two hours, and another in five hours subsequent to the operation—not on account of the amount of hemorrhage, but on account of the disturbance in the lungs, caused by a moderate amount of aspirated blood. So if it is possible to get around the tracheotomy in some other way, then I for one would embrace it with the greatest of pleasure. However, when I saw Dr. Waxham's intubation—which I looked forward to with great interest—I got afraid of the tubes slipping into the air-passages, so I could not get hold of them again. That is one thing, and another that came into my mind was the small calibre of the opening in the tubes. I had an opportunity to see a little child that he operated upon where the operation was easy, and relief was instant, and that is all that I have seen as yet of the matter. Then, of course, I read the paper. There is one thing that I would be rather afraid of—but that is a theoretical objection only—that is, to leave the child without taking the tube out. It seems from the cases reported, however, that in those cases there has never been much trouble of this kind, and theory of any kind is of no value whatever compared with facts.

I believe that this matter is very worthy of careful consideration; but, on the other hand, not until a larger number of cases

have been tried, will we be able to form any definite opinion about it. But we know enough from the cases reported here to be desirous of having this new matter tried.

TRANSACTIONS OF THE GYNECOLOGICAL AND OBSTETRICAL SOCIETY OF BALTIMORE.

Meeting, February 9th, 1886.

The President, GEORGE W. MILTENBERGER, M.D., in the Chair.

WM. E. MOSELEY, M.D., Secretary.

DR. A. F. ERICH read the following paper:

DIAGNOSIS OF FIBRO-CYSTIC TUMOR OF THE UTERUS—LAPAROTOMY AND SUPRA-VAGINAL AMPUTATION OF UTERUS.

Mrs. A. McN., American, age 40 years, widow. Entered the Maryland Woman's Hospital, December 15th, 1885. Married when 19 years old, she has had no children or abortions. She menstruated first when 13 years old, generally every four weeks, sometimes the interval being but three weeks. Amount usually small, and the duration four to five days. She is very anemic. Five years ago, she first noticed a hard tumor the size of a hen's egg in the lower portion of her abdomen, it grew rapidly during the first two years and a half, since then more slowly. It varied in size, and had lately become somewhat smaller. Has had bloody discharges from her vagina lasting six weeks, and has at times gone as many weeks without any discharge. Has frequently suffered from pains resembling labor. Her health has been gradually growing worse ever since she first noticed the tumor. Has also been subject to attacks of nausea, vomiting, and diarrhea. Physical examination revealed a tumor the shape of an enlarged uterus, extending from the pubes to a little above the umbilicus, movable, and continuous with the cervix uteri. The depth of the uterus as measured with the probe was five inches. Temperature, pulse, and respiration normal. The consistency of the tumor seeming rather softer than that of a fibroma, the aspirator needle was introduced and about a fluidrachm of a colorless, serum-like fluid was obtained, which upon microscopical examination (by Dr. Keirle) did not furnish any characteristic appearances that were calculated to assist in the diagnosis. The aspiration was not followed by any unpleasant effects. The diagnosis arrived at was interstitial fibro-cystic tumor of the uterus, adopting the definition as given in Prof. Th. Billroth's "*Handbuch der Frauenkrankheiten*," Band

I., Abschnitt III., Seite 102, according to which, all fibroid tumors that contain collections of fluid within their stroma are fibro-cystic tumors. These include lymphangioma, myoma telangiectodes s. cavernosum (Virchow¹) and myxo-myoma, of which latter Gusserow says (page 103 of Billroth's work above quoted), that microscopically it would be difficult to distinguish this form from sarcoma. The great danger of supra-vaginal amputation of the uterus (the only radical cure of the case) being fully stated to the patient, she elected to take the risk, rather than to continue to lead the life she had been leading. The patient being extremely anemic, the palpebral conjunctiva being perfectly white, she was put upon a preparatory treatment consisting principally of good food, iron, and quinia, until, after the expiration of six weeks, she seemed to be strong enough to make a successful operation possible. The operation was done February 1st, under all the usual antiseptic precautions, and occupied three hours. The abdominal incision made in the linea alba, extending from an inch and a half above the pubes to the umbilicus, had to be extended to a little over an inch above the umbilicus before the enlarged uterus could be rolled out. Both ovaries, considerably enlarged, rolled out with it. Finding the diagnosis verified and no adhesions present, an Esmarch gum tube of the thickness of a little finger was tied firmly around the cervix, as low down as practicable, including a considerable portion of the broad ligaments. The greater portion of the uterus was then removed, taking care to leave enough of the cervix to prevent the gum-tube from slipping. The broad ligaments were next secured by ligatures before they had time to slip from under the gum-tube, which they are apt to do; as much of the cervix as could be safely removed was then trimmed out in the shape of a funnel with thin edges. These edges were brought together antero-posteriorly by, first, a row of deep sutures to prevent bleeding, and second, a row of superficial sutures to bring the edges of the peritoneum in good apposition. Being unwilling to trust a mass ligature around so thick and rigid a stump as the remnant of the cervix presented, much time was spent in arresting hemorrhage from the stump by the introduction of deep sutures.

The rubber tube had to be loosened and tightened many times before all the bleeding points had been thus secured. The blood lost during the whole operation could not, however, have amounted to more than a few ounces. The vagina was then carefully washed out with the bichloride-of-mercury solution, an opening made at the lowest point in Douglas' cul-de-sac, and a rubber drainage-tube, provided with a cross-bar, to prevent it from slipping out, and long enough to reach from this space to the vulva, inserted. The vagina was filled with salicylated cotton, and the

¹ "Geschwulstlehre," III., p. 124.

external opening of the drainage-tube covered with the same material in order to exclude the air. The abdominal incision was closed in the now usual manner, deep and superficial silk sutures and dressed antiseptically. Fully realizing the gravity of the operation, only such assistants as were absolutely necessary were admitted to the operating room, in order to make the risk from infection as small as possible. Prof. Rohé administered the ether, and Dr. Clark, the resident physician, the three house students, Messrs. Lindley, Wise, and Robertson, with the matron, Mrs. Warner, all dressed in freshly-washed linen, were all that were permitted to be present. The subjoined pulse and temperature chart furnishes the subsequent history in a condensed form. Dr. Keirle's report of the necropsy gives, as the cause of death, cardiac asthenia and thrombosis, and says that the heart was so flabby as to flatten out of shape when laid upon the table. His report also shows that there was no secondary hemorrhage, that the drainage had been efficient, and that septicemia had been prevented, as shown by the absence of decomposing fluid in the abdominal cavity, the temperature and pulse changes, and the fact that a firm clot of blood was found in the heart and pulmonary vessels, while after death from septicemia the blood is generally found of the consistency of tar.

The manner of operating was that described by A. Martin in his "*Pathologie und Therapie der Frauen-Krankheiten*," with such slight modifications as personal experience suggested, or were made necessary by the conditions under which the operation was done. Martin places a ligature around the cervical stump, to which, with my experience with a catgut tourniquet in cervix operations, I felt I had no right to trust the life of the patient. As I was not able to procure a drainage-tube provided with a cross-bar, as he describes, I was compelled to extemporize one by cutting a hole through a gum tube near its end, and then forming a cross-bar by splitting a small piece of the same tube and passing one of the pieces through the holes formed at the upper end of the drainage-tube. This piece, turned with its concave surface downwards, gave an opening on each side of the tube immediately under the cross-bar. The opening in Douglas' cul-de-sac, for the passage of the tube, was made by pushing the point of a uterine dressing-forceps, with a boring motion, through the peritoneo-vaginal septum, from the vagina into Douglas' space, the fingers of the left hand being used to make counter pressure. This instrument being so very blunt, the opening was made without the loss of blood. The lower end of the tube was now seized between the blades of the forceps and drawn down until its cross-bar rested upon the floor of the space. The necessity of the tube was made manifest by an almost constant dribbling of bloody serum during the first twenty-four hours. The tube was removed on the morning of the fourth day. In reference to the condition of the abdominal cavity,

Dr. Keirle reports: "There was no attempt at union of the abdominal incision, the lower half of which is discolored. The stump of uterus is observed united by sutures and lymph. Injection with two oz. glass syringe, nozzle introduced through cervical canal, does not, until after fourth trial, spurt in three fine jets through incision." Around the opening made for the drainage-tube he found "a layer of lymph (fibrin), of irregular superficies, which extends thence on the pelvic peritoneum two cm. Fibrin also agglutinates some coils of small intestines to uterine stump. This is a limited pelvic peritonitis. No further inflammation exists in the abdominal cavity, in which the other organs and structures are normal. The tumor was imbedded in the anterior wall and fundus of the uterus; the thickness of the anterior wall being six inches, that of the posterior only three-quarters of an inch. Weight of whole uterus and tumor, three pounds and eight ounces. Upon section, the tumor presented a pink-colored, transparent tissue, seemingly consisting of a delicate network of fibres and capillary vessels separated by transparent fluid, looking very much like a section through connective tissue in edema, and corresponding very nearly to a description of myxo-myoma as given by Virchow." Dr. N. G. Keirle, the pathologist to the hospital, states: "Its¹ microscopic histology is that of the medium-sized spindle-cell sarcoma."

DR. W. P. CHUNN asked Dr. Erich the character of the fluid withdrawn by aspiration; did it coagulate on exposure to air? He had always considered that if the fluid coagulated, it was a proof of fibro-cystic tumor; as the rule, to which he knew there were exceptions, was, that fibro-cystic fluid was blood minus its corpuscles and would coagulate when exposed to the air.

DR. ERICH answered that, as the amount of fluid obtained was very small and as it was wanted for microscopical examination, he did not test its coagulability. As he said in his paper, the microscopical examination threw no special light on the diagnosis.

DR. T. A. ASHBY said that Dr. Erich had stated that he had used thorough antiseptic precautions in this operation. He would like to ask the doctor what antiseptic method he had employed.

DR. ERICH replied that the ceiling, walls, and floor of the patient's room were swept and washed, and then sprayed with a carbolic acid solution. Only those required as assistants were permitted to be present, and all were dressed in freshly washed linen, their finger nails cut and hands thoroughly cleaned. Carbolic acid solution was used for instruments, and a 1 to 2,000 solution of bichloride of mercury for sponges, etc. The dressings for abdominal wound and vagina were described in the paper.

DR. ASHBY said that the object of his question was to elicit some discussion on the use of antiseptics in abdominal surgery. As is well known, opinions differ very widely among European abdominal surgeons in respect to the use of antiseptic agents within the abdominal cavity. While thorough Listerian principles, includ-

¹The microscopical examination was made after the case was reported.

ing the use of the spray, are enjoined by a surgeon of Mr. Thornton's acknowledged ability and experience, all antiseptic agents are discarded by so successful an operator as Mr. Lawson Tait. One fact is clear amid all the confusion respecting the details of antisepticism, and that is the great value of absolute cleanliness, which is the essence of Mr. Lister's teachings. Modern statistics show the great value of these principles in abdominal surgery, and he would be indeed a bold operator who failed to apply these principles, modified only as to details.

DR. CHUNN questioned the advisability of introducing a drainage-tube in those cases where there were no adhesions, and consequently no blood or fluid of any kind left in the peritoneal cavity. This opinion he based upon the teachings of Mr. Keith. He considered if any fluid did collect in Douglas' space, it would be easily detected and gotten rid of. He was of the opinion that a woman of forty with a growth like that shown could be tided over until after the menopause, which could not have been many years distant in the case reported.

DR. H. P. C. WILSON questioned the report that some distinguished operators entirely ignored antiseptics. Some, he was aware, did not use the spray, but he was under the impression that they were careful to see that all sponges, instruments, and appliances that had been used in an operation were rendered thoroughly antiseptic before being used in another. Several acids, bichloride of mercury, and other agents were antiseptic, and if any of them were used to guard against septicemia, those employing them could not be said to be opposed to antiseptics in abdominal surgery. As far as he personally was concerned, he still had great faith in antiseptics, especially in hospital practice, and he favored the use of the spray in such cases, having it stopped only just before beginning the operation. He never could understand why we should be so careful in disinfecting sponges and not use as great precaution to render antiseptic the air around hospital operations. In one case he did a laparotomy upon a patient at the same time that there was a case of erysipelas in the next room, and the result was uninterrupted recovery. At another time he removed an ovarian tumor from a woman who occupied the same room and bedstead that had been vacated only ten days before by a patient having a sloughing fibroid from which the stench was so great that it was nauseating to enter her room, and rendered the air of the whole floor offensive. In this room the carbolic spray was used liberally for several hours before the operation, and especially under, around, and in the bed. In some cases he washes out the abdominal cavity with bichloride solution before closing the incision.

DR. ASHBY said he had not had any opportunity of seeing Mr. Tait operate, and so was not personally familiar with his methods; but Mr. Tait had published the fact that he has no faith in the so-called antiseptic agents, and believed they did more harm than good. At one time he (Mr. Tait) had practised the Listerian ideas in all their details, but they disappointed him and he gave them up. He took water from the tap and put it into the basin for the sponges, over the instruments, and into the abdomen, but he practised the most rigid enforcement of cleanliness. Dr. Ashby had recently, through the courtesy of Dr. Chambers, the resident physician, had an opportunity to examine Dr. T. G. Thomas' private hospital from cellar to garret. Every idea that prevails in its con-

struction and management has reference to purity of air, scrupulous cleanliness, and absolute comfort. But, with every convenience for ventilating, heating, and lighting, Dr. Thomas still employed a thorough system of antiseptis, and in every detail of his operative work reference is had to disinfection and absolute cleanliness. Dr. Ashby expressed the opinion that, in our country at least, omission of antiseptic precautions in abdominal surgery would mean an increased death-rate, and that no surgeon could, in justice to his patient or to his own reputation, afford to hazard an operation within the abdominal cavity without using those methods of antisepticism that are expressed in the Listerian idea.

Dr. A. asked permission to relate the following case, which he considered of interest in connection with the case reported by Dr. Erich. The patient was a negro woman, age 31, and had been married between nine and ten years. Her youngest child was about eight years old. For four or five years past, she has lost considerable blood during menstruation, and has noticed an enlargement of the abdomen, but attributed the latter to taking on flesh. For several months past, menstruation has been very profuse, generally lasting about eight days. During the intermenstrual period, she has a discharge from the vagina of a clear watery fluid varying in amount from a teacupful to a pint in twenty-four hours. The discharge of fluid is spasmodic in character, deluging her clothing. Her general health is at about par. Physical examination reveals a globular tumor about the size of a uterus at the fifth month of pregnancy. The tumor has thick, dense walls, and is largest at its upper part. The cervix uteri is normal in size and feel. The sound enters the uterus five and one-half inches, is grasped tightly by the lower segment, but rotates freely in the cavity near the fundus. Dr. A.'s diagnosis is, a fibroid of the uterus undergoing cystic degeneration. The indications for treatment are palliative, as in the present condition of the patient no operative procedure would be justifiable. The case is of interest from the fact that the woman's health remains so good, and that the cyst should have opened into the uterine cavity and allowed its contents to discharge as described.

Dr. W. E. MOSELEY thought one great source of misunderstanding in regard to antisepticism came from the inclination people showed to limit disinfectants to the so-called antiseptic solutions and powders. Those surgeons who decry most loudly the use of antiseptic precautions are very careful to expose their sponges, etc., to a high degree of heat before using, and thereby make use of the most powerful means of rendering them aseptic. Live or free dry steam is found to be the most effective agent in disinfecting on a large scale. The numerous antiseptic preparations have their places, but many of them are almost or quite useless, unless used in very concentrated form; and others are poisonous or irritating, and caution must be exercised in their application.

Dr. ERICH said that in institutions having arrangements for disinfection by heat, much could be done by that means, but in our own hospitals he thought it necessary to have recourse to antiseptic fluids.

If any question arose as to the diagnosis of the case reported, he would refer those present to Billroth's work mentioned in his paper, and ask a comparison of the specimen with the description found there. He thought many cases were diagnosticated fibro-

cysts which were not really such, as, for instance, one operated upon by himself, which proved to be an old abscess of a broad ligament. The rule laid down by authorities is that fibro-cysts contain either blood, serum, or lymph, and that the diagnostic value of coagulability of the fluid contents depended entirely upon the character of cystic degeneration. In the seventy cases of fibrocystic tumors collected by O. Hear, only eleven contained fluid coagulating spontaneously.

He thought the social position of the patient had much to do with the question whether the removal of a growth, the size of that shown, was a justifiable procedure or not. He considered that a rich woman would have been able to endure the growth for a considerable time, even until the menopause, as she could place herself among the best surroundings, and have proper care; but, in the case in hand, the woman was poor and obliged to earn her own living, which the growth prevented her from doing. He had represented fully to his patient all the dangers attending the operation, and she had insisted upon undergoing it. In such cases, he thought we had no right to refuse to operate.

He considered the detection of a small amount of fluid in Douglas' cul-de-sac, unless encapsuled, an impossibility, as free fluid would recede upon the slightest pressure from without. The peculiar form of drainage he had adopted was that recommended by Martin, of Berlin, and had been used by him in several cases with the best results.

DR. P. C. WILLIAMS asked for an explanation of the fact that, in a woman dying from asthenia, there should be a temperature of 96° F. immediately after the operation, and that it should rise each day until it reached 104.8° F. on the day of her death. Would not such a range of temperature indicate some inflammatory or septic complication?

DR. ERICH replied that he considered it an advantage to have a slight rise of temperature after an operation, as he thought it indicated a greater amount of vitality in the patient than if it had a tendency to remain subnormal; that, with the closure of the peritoneal edges by the exudation of lymph, there must be some local peritonitis.

DRS. ASHBY and H. P. C. WILSON emphasized the importance of taking the patient's social position into account in considering the advisability of any operative procedure, and agreed with Dr. Erich in his conclusions.

DR. ROBT. T. WILSON exhibited some surgical needles, the invention of David Genese, D.D.S., of this city. Dr. Genese calls his needles

“IRIDINIZED PLATINA NEEDLES.”

They are made with a platinized gold head, hardened under hydraulic pressure. Needles can be made by this process of any shape or size, and they are said to be indestructible under the pressure of forceps or the action of acids, but can be bent to any desirable curve.

DR. MOSELEY thought that, judging from the needles shown, they would be useless in any operation where much force would be required for their introduction. Strong steel needles will often bend and sometimes break in the hands of skilful operators, and in such cases a needle which can be bent as easily as the samples

would be of absolutely no value. They might be of use in a limited class of cases where their introduction would require but little force.

DR. ERICH said that the danger of the steel needle breaking at the eye could be obviated by heating it at that end, and allowing it to cool slowly. This would not interfere much with temper of the needle at its point.

In his operations for lacerated cervix, he uses a tourniquet, and supposes he is a marked exception to the rule in so doing. The instrument he uses is his own device, is like a light *écraseur*, with catgut for a chain. His special reason for using it, aside from preventing hemorrhage, is that it so benumbs the cervix that he does not need to use any other means of producing anesthesia, except in the case of very nervous women, when he has recourse to ether or chloroform. The use of this instrument demonstrated to him the fact that, after the parts had been ligated for some time, they would shrink, allowing the bleeding to return, and requiring the tightening of the tourniquet, and had thus taught him not to depend upon a ligature in supra-vaginal amputation of the uterus.

DR. B. B. BROWNE said that in many cases of deep laceration of the cervix, extending up to and beyond the vaginal junction, he thought it would be difficult, if not impracticable, to apply the tourniquet above the seat of laceration. He asked Dr. Erich how, in such cases, he prevented cutting the ligature of the tourniquet while removing the cicatricial tissue from the angles.

DR. ASHBY stated that he continued to employ the tourniquet in a certain number of cases. He had found it useful in those cases where the cervix uteri was much elongated, and where there was hyperplasia and congestion of the cervical flaps. He could verify the assertion made by Dr. Erich as to the necessity of constantly tightening the loop of the tourniquet, in consequence of a shrinkage of the tissues. He had never employed catgut as a loop, but used very flexible wire.

DR. H. P. C. WILSON could not see how, in those cases in which the laceration extended up to the vaginal junction, it would be possible to apply the tourniquet so as to clean out the angles without cutting the catgut cord. He thought that in certain special cases the instrument might be of use.

DR. ERICH replied that, when the uterus was easily movable, by drawing the cervix well down, the tourniquet could be applied above the angles of the deep laceration, even above the internal os; that the only cases in which he had difficulty were those in which there was a very short and conical cervix, or the uterus was fixed, so that it could not be drawn down far enough.

TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF LONDON.

Annual Meeting, Wednesday, February 3d, 1886.

J. B. POTTER, M.D., F.R.C.P., *President, in the Chair.*

The following specimens were shown:

- (1) *Uterus showing a Dilated Cavity*, Dr. W. Griffith.
- (2) *Sarcoma of Uterus*, Dr. W. Griffith.
- (3) *Papilloma of Ovary*, Wm. Thornton.

The following paper was read:

A CASE OF REMOVAL OF BOTH OVARIES DURING PREGNANCY.

By WM. KNOWSLEY THORNTON.—M. W., married, æt. 22, in the third month of pregnancy, was known to be large twelve months before marriage. Is now large beyond the size of pregnancy, and has a large fluctuant tumor in the abdomen, which is growing fast. Has suffered from several attacks of pain in abdomen, with rise of temperature, sickness, and faintness. Diagnosis, ovarian tumor complicated by pregnancy. Ovariectomy advised and performed Feb. 4th, 1885. Dermoid tumors of both ovaries removed. Rapid and uninterrupted recovery. Premature delivery at eighth month. Labor uncomplicated. Lochia normal. Fine, healthy child and plenty of milk to nurse it. On examination uterus is found atrophic, patient is, while nursing, suffering from flushes, chills, etc., just as others do who have an artificial menopause brought on by operation. The author made remarks on the interesting physiological and pathological problem which this unique case suggests.

DR. JOHN WILLIAMS said that, in a note read before the Society in 1884, he described the involution of the puerperal uterus in the absence of the ovaries. In that case the left ovary had been removed some years previously, and the right was removed soon after labor set in. The course of the process of involution might have been affected directly by the interference of the operation in this case, but in Mr. Thornton's such could not have been the case, for the operation had been performed months before labor set in. He would ask Mr. Thornton if any observations had been made on the process of involution in his case.

DR. ROUTH remarks that the atrophy of the uterus could not impede lactation, and quoted Dr. Livingstone, who stated that the wives of African kings were not allowed to suckle their own children as it was thought derogatory. The child was given to the grandmother, generally an old woman, to whose mammae and pudenda certain plants were applied and the child put to her breasts, with the result that she was able to suckle the child. He also alluded to well authenticated cases in which men had

suckled. He objected to the conclusion that menstruation always depended upon ovulation; this question he considered undecided, and facts were accumulating to show that menstruation has really very little to do with ovulation.

DR. MATTHEWS DUNCAN regarded tapping as the best treatment in cases of simple parovarian cyst. It involved less danger than extirpation, and was often successful. The extirpation of small papillomatous ovaries involved many difficulties. He did not believe any operation could cure where malignant disease had extended to several different parts of the peritoneum. He also reminded the Society that Dr. Tyler Smith had supported the view that the commencement of labor was a function of the ovaries. This view was now rendered almost untenable by Mr. Thornton's case. He had no doubt whatever that the ovaries were indissolubly connected with menstruation.

TRANSACTIONS OF THE OBSTETRICAL AND GYNECOLOGICAL SOCIETY OF BERLIN.

(Translated from *Centralblatt f. Gyn.*, January 2d, 1886.)

Meeting of November 27th, 1885.

President: SCHROEDER. Secretary: A. MARTIN.

A. MARTIN presented a

LITHOPEDION

removed from a patient with the following history: Age 52, two deliveries at term. In August, 1872, the patient missed her menstrual period, and believed herself pregnant. In 1873, the speaker, then assistant to the department for women at the Policlinic, made the diagnosis of extrauterine pregnancy with living fetus. The patient refused operation, and the fetus died. She was thereafter treated, for a long time, for chronic peritonitis. In the middle of November, 1885, she was anxious for operation in order to obtain relief from the increasing pain from which she suffered. The removal of the lithopedion was not at all difficult. The membranes had disappeared; only the bony structures remained, petrified and lying on the right kidney. It was more difficult to remove a universally adherent tumor, occupying the right half of the pelvis, the probable site of the placenta and membranes, and consisting of a sac containing a pyo-salpinx. No recognizable trace of placenta was detected. Convalescence was typically normal.

SECONDARY PUERPERAL HEMORRHAGE FROM UNUSUAL CAUSE.

KRETSCHMER presented a specimen removed from a patient,

aged 40, who had first menstruated at 12, had borne eight children and had never miscarried. On the 15th of August, 1885, during a violent storm, she was wet through, caught cold, and thereafter complained of abdominal pain. She had been regularly unwell, and was free from all subjective symptoms of pregnancy. In September, hemorrhage set in, for which, towards the middle of the month, she consulted the speaker. The amount of the hemorrhage, as well as the local findings, left no doubt but what he had to deal with a case of premature interruption of pregnancy, with a miscarriage. Since, after a few days, the cervix had not sufficiently dilated, this was accomplished by means of compressed sponge, and the fetus was removed, decomposed and macerated, developed to about the fourth month. A portion of the occipital bone was lacking, the abdomen was completely open, the right leg was also lacking. This was soon expelled, but neither the placenta nor the occipital bone, which latter could be distinctly felt to the left of the internal os. The speaker's intention to empty the uterus was prevented by the nurse giving, by mistake, an injection of pure carbolic, and thus cauterizing the vagina. As soon as the mucous membrane of the vagina had healed, the patient was free from pain, had had no hemorrhage for over eight days, considered the miscarriage ended, and refused further interference. She convalesced quickly, and returned to her household duties. At the end of six weeks she menstruated normally. Her good health continued, under the observation of the speaker, up to November 25th, when great physical exertion brought on anew both the pain and the hemorrhage. Examination revealed moderate hemorrhage, an enlarged uterus, the cervix greatly contracted, the external os closed. On the morning of the 26th, great hemorrhage and pain, and the speaker was able to withdraw from the vagina the placenta (not decomposed, but fresh and firm), and near it lay the missing occipital fragment. The hemorrhage, notwithstanding, still continued, the external os remained wide open, the posterior lip hanging relaxed, in the face of every remedy. The patient was in collapse. He sent for assistance, chloroformed the patient, and removed from the uterus with the sharp curette a number of placental remnants. The uterus then contracted, and the hemorrhage ceased.

SCHRÖDER showed the uterus of a patient who had been taken in labor with

CANCER OF THE CERVIX.

In July, 1885, a diagnosis of cancer of the cervix was made in the patient whilst pregnant. A little after, she was examined again, and the tumor was of the size of a fist, filling the pelvis, and in its centre lay the cervix. The infiltration extended into the lower uterine segment. Owing to the density of the new-growth, delivery through the cervix was deemed impossible, and since the recovery of the woman from any

carcinoma operation was unlikely, it was determined to allow the fetus to develop to viability. Seven weeks before the end of gestation, pains set in; these were without effect on the cervix, the liquor amnii was passed on the next day; meconium was contained in it, the fetal heart was just perceptible. Although the prognosis for the fetus was bad, the indication was still to endeavor to save it. It was impossible to deliver through the cervix, for this remained dense in the face of the pains. In addition, there was rise of temperature and fetid discharge. Under these circumstances S. determined on the sectio Cesareae. The fetus was deeply asphyxiated and could not be resuscitated. There was no hemorrhage from the uterine incision, the provisional elastic ligature being applied. Since neither the classic section nor Porro could benefit the mother, Freund's operation was performed. The uterine adnexa were ligatured separately before and behind, and the supplying vessels tied. During separation of the bladder, it ruptured, possibly because of weakness and softening following on the labor pains. The uterus was separated from the vagina, this was sutured, as also the peritoneum. The bladder was drained by permanent catheter. In the pelvic cellular tissue, as revealed by the autopsy, a disease nodule was left. The patient died in five hours from peritonitis, and the peritoneal fluid was rich in streptococci.

ERNST COHN read a paper on

THE ADVISABILITY OF OPERATION IN CASE OF MALIGNANT TUMORS
OF THE OVARY.

The material for this elaborate paper was derived from the Royal University Clinic for Women at Berlin, and consisted of one hundred cases. The questions which C. aims at answering are, What cases of ovarian tumors are operable, what not, and when should the operation be performed? Should operation be resorted to early whilst the tumor is small, or should we wait till symptoms call for laparotomy, and thus risk the tumor becoming malignant? The cases utilized for answering his questions were all malignant where Schroeder did laparotomy. Of the 100 considered, 86 were completed operations, and in 14 an exploratory incision was alone attempted. (C. classifies these cases according to nature of malignant growth, enters into the etiology, frequency, and diagnosis, analyzes the statistics, reports the more interesting cases, and sums up his paper as below.)

Of 100 cases (all kinds of tumors combined) there died 20% from the operation (including a case of puerperal sepsis resulting from abortion following operation), and 15% from recurrence; 19% were certainly cured. Of the 66 completed operations, 17% died of recurrent growth, and 19.5% were living one year after operation free from recurrence. Altogether there was information in regard to 51 cases, or rather 62, including 11 exploratory cases, who sur-

vived the operation and died later, and of 38 cases information was lacking.

The above figures, C. says, places the justifiability of operation in the cases considered in a far different light from that in which it is ordinarily seen. The chances of recovery and death are about equal, 19% to 19.5%; and even if recurrence obtains, the patient's existence *ad interim* is far different than if she were not operated upon at all. Where it is impossible to say beforehand whether the tumor is removable or not, an exploratory incision should certainly be made. There should be no waiting, since every day lost may render the prognosis far worse. It is further to be remembered that the one hundred cases of malignant tumors analyzed, constituted one-sixth of the total number of ovarian operations by Schroeder. The chances are that every sixth tumor may turn out to be malignant; it is evidently our duty to remove at once every proliferating ovarian tumor with which we come in contact, for no man can tell how far off is the time when such tumor, if not already malignant, will become so. C., therefore, protests emphatically against the opinion of those operators, Spencer Wells in particular, who advise postponement of operation until the patient's symptoms loudly call for interference. If we wait so long, the chances are one to six that we will find a malignant tumor. The rule C. lays down is, hence: when the diagnosis of ovarian tumor is reached, and it has been differentiated from simple dropsy of the follicles, or a parovarian cyst, especially if the tumor appears to be proliferating, and again if bilateral, then, no matter what its size or the health of the patient, it should be removed.

P. RUGE said that the reader had, through his interesting and valuable researches, endeavored to prove that even in those cases where, before laparotomy, the diagnosis of malignancy of the ovarian tumor was reached, ovariectomy should still be performed. It was questionable, however, if, from the statistical data afforded by the reader's material, such a deduction was allowable. From similar data, however, the necessity of the operation in case of malignant tumor could be made clearer than C. had done, by a comparison of all the cases of cancer of the ovary where usually the diagnosis was alone reached after operation. R. could report four cases from his practice, where he attempted ovariectomy in the face of a diagnosis of malignancy. These cases, in brief, were: 1. An exploratory incision was made, and after a vain attempt to loosen the firmly adherent tumor, the abdominal cavity was closed. The diagnosis of malignancy had been based on great ascites, hardness of the tumor, cachexia. The patient, shortly afterwards, died. 2. The patient was aged 51, and the tumor solid, reaching almost to the cardiac region. The malignancy of the tumor was based on the great pain and the cachexia. In 1876, laparotomy was performed, and, after Péan's fibroid operation, a large portion of the cancerous ovarian tumor was removed. A larger portion was left behind in the pelvis, owing to adhesions which could not be broken up, and the surface of the tumor, the size of a two-

florin piece, was sewed into the abdominal wound, and drainage established through Douglas' cul-de-sac. It is worthy of note that, notwithstanding an incomplete operation, the patient's pains disappeared, and that, further, the incision through the cancerous substance cicatrized. The patient died after five months. 3. In this case, the pain and cachexia pointed to the malignancy of an ovarian tumor in a woman of 39. Ascites had never been present. After ovariectomy, the woman picked up quickly, and was living yet, five years and eight months after, although recurrence had recently set in. 4. In the next case, the patient was aged 41, and the ascites, and peculiar feel of the tumor, pointed to malignancy. The cyst was multilocular, and between the cysts lay hard masses which, after the operation, were determined to be carcinomatous. The patient had no symptom beyond abnormal distention. The operation was difficult, since the tumor was universally adherent to the pelvis, and so intimately connected with the uterus that they constituted one mass. Further there existed a number of cervical myomas. The tumor, uterus, and myomas were removed. Convalescence good, and the patient, ten months after, was well.

From this small material, the opinion was justifiable that ovariectomy should be attempted, even though the tumor was known to be malignant. The patients occasionally lived for years, improved in health, and might lose all their former symptoms.

E. COHN said that R.'s point in regard to diagnosis, the absence of pathognomonic symptoms, was in perfect accord with his own observations. A majority of his cases had been operated upon without a certain diagnosis of malignancy. In case of many of the cases, however, the diagnosis was clear. To produce the figures was not possible, because in the old records frequently the essential point was not noted. The less the growth of the tumor, the more difficult, of course, will be the diagnosis.

In 191 ovariectomies, A. MARTIN had met with only 9 cases of carcinoma; of these 3 were papillomatous, and 3 cases where peritonitis myxomatosa co-existed, in other words not quite 5% carcinoma cases, and altogether about 7% malignant tumors. The discrepancy between his figures and those cited from Schröder by Cohn he explained on the ground that since 1877 he was in the habit of removing ovarian tumors early, because of his belief that the longer they remained the greater the chance of malignancy. Of his 9 cases of carcinoma of the ovary and the peritoneum, 3 did not rally from the operation, 3 died within two months from extension of the disease, from the remaining 3 the last reports were good, although only one had been operated upon longer than two years. Of the three papilloma cases, one was enjoying good health about two years after operation; in one, after two and three-quarter years, there was recurrence of carcinoma peritonei, but she was yet alive; the third was living also, although three weeks after operation she had developed carcinoma peritonei. In addition to these cases, M. had made an exploratory incision in 18 cases of carcinoma ovarii peritonei, and three times an exploratory puncture. Of these, two, operated upon almost *in extremis* to relieve abdominal distention, died shortly after; the remainder were discharged. These results are in opposition to the opinion, so often expressed, that exploratory incision is highly dangerous, certainly in case of cancer; and when we remember that the patient, through the removal of the ascitic fluid, loses the abdominal

distention and the accompanying pain, the exploratory incision in these cases is certainly indicated. In any case, however, where the completion of the operation is problematical, we should rest content with opening the abdominal cavity, since any further endeavor entails great danger, especially that of hemorrhage from wounded carcinomatous vessels. It is from this reason that the patient operated on by M. in 1876 died, and, since then, it was his rule to close the abdominal cavity without attempting the removal of firmly adherent carcinoma masses.

DUEVELIUS had twice had the opportunity, whilst substituting for Martin, to perform laparotomy in case of malignant ovarian tumors. In the first case, the tumor was a papilloma of both ovaries. Although all malignant portions had been removed, and neither the peritoneum nor the glands were apparently affected, recurrence obtained three and a half months after operation, and the patient died in five months. The diagnosis of malignancy was made before operation. In the second case, an exploratory incision was made, and after opening the abdomen the operation was abandoned on account of great adhesions between intestines and tumor, and there was no possibility of radically removing the malignant masses. Patient rallied, but died nine months afterwards.

SCHRÖDER said that certainly not all the cases reported by Cohn had been diagnosticated before operation as carcinoma of the ovary; in many, indeed, the diagnosis was first made by C. Ruge under the microscope. Rarely, indeed, can an operator express his intention to operate in case of cancer of the ovary, because, when the diagnosis is reached before the operation, it is too late to operate. The diagnosis is impossible, in case of malignant degeneration of a cyst, until isolated thickening can be detected. In case of the papillary form, particularly when the papillary masses are within the cyst, diagnosis is often impossible; only when these masses are on the superficies of the cyst is the possibility suggested. Sarcomas may ordinarily be recognized, on the other hand, especially when they are large and solid, in a young person, are bilateral and accompanied by ascites. Latterly S. has operated on almost every tumor which had been sent to him, and far earlier than it was formerly his custom. Another question which suggests itself is, if it will be possible to remove all the disease. We may count on this if there are no recognizable metastatic deposits. Especially of importance is the detection of indurated masses in Douglas or in the omentum, as is not often possible in case of large tumors, but is in case of small. The operation should be attempted in the face of probability of failure. Even in cases where the presumption is strong against the possibility of radical relief, S. advises careful laparotomy, since otherwise the patients have full cognizance of their condition; and, even after removal of the ascitic fluid, the symptoms are lessened for a time. An exploratory incision must be looked upon as not dangerous; very dangerous, however, is an incomplete operation, so that against this he could not too strongly warn.

TRANSACTIONS OF THE OBSTETRICAL AND GYNECOLOGICAL SOCIETY OF DRESDEN.

(Translated from *Centralblatt f. Gyn.*, No. 2, 1886.)

Meeting of May 16th, 1885.

President, LEOPOLD. Secretary, BODE.

SALPINGOTOMY.

In connection with this subject, LEOPOLD said that by this latterly frequently performed operation was intended the extirpation of degenerated and dilated (by water, mucus, pus, blood) tubes, and usually, at the same time, the ovaries. The cause of the collection of fluid within the tubes was, at the outset, the occlusion of the abdominal end of the tube through pelvic peritonitis, which in turn resulted from catarrhal, tubercular, syphilitic, and gonorrhœal salpingitis. The retention of the resultant fluid could, according to the speaker's previous observations, cause dilatation of the tubes to the size of a fetal head. The most frequent cause was gonorrhœal inflammation.

The speaker next sketched this latter form, and demonstrated its anatomy through citations from Bandl and Heitzmann. Although Noeggerath long ago pointed out that the so-called latent gonorrhœa evoked chronic and recurrent inflammatory changes in the sexual organs, this opinion had but slowly gained ground. The diagnosis of dilated tube is not an easy matter, and depends on, 1, the periodical recurrence of abdominal pain in women, who, notwithstanding long years of married life, have remained sterile, or else, after one or two labors, have ceased bearing; 2, the frequent exacerbations of pelvic peritonitis, usually resulting from slight and otherwise bearable cause, following on the dripping of pus from the free end of the tube into the peritoneal cavity, as is proved by autopsy in such cases; 3, the peculiar nature of the pain in such cases (Kaltenbach), like that which attends the *colica scortorum*; 4, the findings on bimanual palpation under anesthesia. Even from the most careful examination the diagnosis may remain uncertain, and error results through the necessity of differential diagnosis from degenerated ovaries, tubo-ovarian cysts, old exudations, etc.

As for treatment, the speaker doubted if general or local medication availed aught, and ranged himself with Kaltenbach, A. Martin, Säger, and others, in the opinion that extirpation by laparotomy was indicated, as soon as it was apparent the symptoms could not otherwise be controlled.

The operation might be as easy as any simple laparotomy, but it might also be very difficult, when great adhesions and alterations were met with. In such cases, the operator must clearly make out all diseased parts, lest the operation fail through rupture of intestine, ovarian cysts, etc. The danger from the operation depended on the likelihood of secondary hemorrhage from loosened adhesions, or the passage of pus from the tubes into the peritoneal cavity. The speaker had personally performed the operation five times. Of this number three had died. One case was simple, in two cases careful cleansing of the abdominal cavity was necessary from escape of purulent matter, and drainage through abdominal wound was called for. He had always dropped the pedicle, although he now questioned if the extraperitoneal pedicle method was not preferable.

The *résumé* of these five cases was: 1. Bilateral, fist-size pyosalpinx, easily movable, few adhesions; both ovaries likewise removed; pedicle dropped. Recovery. 2. Gonorrheal infection established. Removal of both very adherent degenerated tubes, and a sub-peritoneal myoma of right side. Death on fifth day of sepsis, resulting from slipping of ligature and escape of pus. 3. Adherent degenerated tubes, easily removed. Slipping of ligature and escape of pus into abdominal cavity. Death on sixth day. 4. Removal of hen's-egg-size tumors, followed by drainage. Recovery. 5. Rupture of tubal tumor. Hemorrhage controlled by deep suture. Drainage. Death from sepsis.

MENSCHER showed a new-born child with cleft-palate. The cleft lay between the palatine bone and the superior maxilla; the eyes were rudimentary. The speaker rehearsed the theories as to the cause of cleft-palate, particularly with reference to Albrecht's theory.

In regard to the time for operation, RUPPRECHT stated that it was necessary to differentiate between simple cleavage of the lips, and this complicated with cleft-palate. In the first instance it was better to await the end of the first year, since, after weaning, the child could be more readily retained in a hospital. The mortality would be lower, and the cosmetic result better. As for the complex cases, the cleft-lips should be at once united, the cleft-palate at the end of the eighth year.

MARSCHNER showed a child with deep depression in the occiput, caused by pressure against the sacral promontory during delivery of after-coming head.

Meeting of October 1st, 1885.

MICHAEL demonstrated a number of microscopical preparations of chronic endometritis; in particular the types: first, a form in which there existed especially great glandular enlargement; secondly, a form where the interglandular cellular tissue was greatly infiltrated with cells. Between these two forms, there were many variations; in many of the cases there were anomalies which were

demonstrated by numerous specimens. In rarer forms there had been hemorrhage into the cellular tissue, and here the name endometritis hemorrhagica was applicable.

The speaker then showed a uterus which Leopold had removed eight days previously by the vagina, on account of beginning cancer, the patient being forty-nine years of age. The case was remarkable because, on examining the patient, very little characteristic was determined, there existing on the cervix simply a nodule, the size of a bean, suspicious in appearance. The microscopical examination of the excised nodule revealed typical carcinoma. Kolpohysterectomy was therefore resorted to, and the cervix was found filled with carcinoma masses, which, in places, completely invaded the walls. The microscopical result from excised portion was fully sustained.

KORN spoke on the subject of perforation of ovarian cysts, giving the anatomy, etiology, diagnosis, and treatment of rupture of a cyst, and then described a remarkable case of so-called pseudomyxoma peritonei (Werth), the history of which will be found in the *Centralbl. f. Gyn.*, No. 52, 1885.

Meeting of November 5th, 1885.

BODE related the history of

A CASE OF PORRO OPERATION,

with extraperitoneal treatment of the pedicle. The indication for operation was cancer of the cervix and of the pelvic cellular tissue. After opening the abdominal cavity, the uterus, in a state of tetanic contraction, was rolled out. The incision was made in the mid-line of the anterior wall, and the placenta thereby wounded. The liquor amnii had already escaped; the fetus, dead before operation, was removed. During the incision, the cervix was compressed manually, and, after removal of fetus, by elastic ligature. He showed the extirpated uterus and removed placenta. The patient, who during the operation had a temperature of 102.2° F., and a rapid pulse, made a good recovery, and, four weeks after, was well.

SCHRAMM related the

HISTORIES OF FIVE LAPAROTOMIES: TWO CASTRATIONS, TWO OVARIOTOMIES, ONE SALPINGOTOMY.

The castrations were performed for epilepsy, which had supervened on menstruation, and accompanied the period.

Case 1.—Æt. 27, married, of neuropathic ancestry, had her first attack at the age of sixteen, simultaneously with appearance of first menstrual period. The first convulsion resulted from great fright. The convulsions then ceased, because for one year there existed amenorrhea. Later, with return of menstruation, the attacks again simultaneously recurred, but for some time they occurred independently of menstruation every fortnight, although they were more severe at the periods. At one time, for a limited

period, the attacks ceased after dilatation of the cervix, only, however, to become re-established with greater frequency. On account of this, although examination did not reveal markedly altered ovaries, castration was performed April 21st, 1885. Removal of both ovaries. Professor Neelsen reported that they were not at all pathologically altered. Uncomplicated recovery. During the night of the 13th to 14th of May, 1885, at the time of the expected period, profuse epistaxis set in, followed by unconsciousness for two hours. The same resulted on June 5th, and on June 9th, although on these occasions she had the aura, and on July 1st the pain in left side returned, and epileptic attack. On July 4th, had her last attack. Up to the end of October she had had no further attack.

Case 2.—Operated on three weeks previously. Maiden, æt. 20, of healthy parentage. At the establishment of menstruation at fourteen, she suffered from great pain, cramps, dizziness, loss of consciousness, followed by protracted sleep. The tongue bitten during attacks. In May and June the attacks increased; since September recurred every fourteen days, with greater violence. Examination revealed slight enlargement of the right ovary. Operation, October 14th. Both ovaries removed, the right cystic. Good recovery. Since operation no attack. The speaker stated that this case had been too recently operated on to allow of any deduction. He promised a later report.

Case 3.—Salpingotomy. Patient of 39; had never menstruated. From her twelfth year had suffered from headache; from her eighteenth, regularly recurring abdominal pain every four weeks, accompanied by persistent vomiting, lasting for two days. Had been under observation of speaker for nine years. When first examined, the uterus was infantile, the left ovary not palpable, the right normal. Latterly she had emaciated greatly, and was intensely neurotic. Examination in the present year revealed an elastic fluctuating tumor, apple size. Perhaps a tubal tumor. On May 26th, laparotomy. The left ovary the size of a hazelnut, filled with cheesy pus, and resting on a tumor, the size of an apple, a hydro-salpinx containing from 20–25 gm. fluid. This tumor and ovary were removed, and the pedicle touched with the Paquelin and dropped. The right ovary was filled with small cysts, and was easily removed. Patient was discharged on July 6th, had recovered her strength, and only occasionally had hot flashes, etc.

Case 4.—Ovariectomy. Patient æt. 23, one delivery one year previously. Highly cachetic, edema, and abdominal measurement of 111½ cm.; had been tapped, and high temperature since. Each evening, rise of temperature to 39.5° C. Operation July 1st. Large tumor of right side, partially adherent to sigmoid flexure. Very difficult to move the tumor; tumor considered therefore malignant, and this was afterwards established. Weight, fourteen pounds; the removed fluid, red-brown, amounted to one litre; abdominal cavity irrigated with sublimate 1 to 6,000. Microscopi-

cally, tumor turned out to be a cystic adenoma, with early carcinomatous nodules here and there. Patient discharged in four weeks in good condition. From her physician the speaker had heard that six weeks after she had had a pleurisy with exudation and high fever, and that another tumor, size of a fetal head, could be felt in abdomen to the left. October 12th, death. Autopsy: tumor to left, a cyst containing pus. Recurrence of cancer in line of suture.

Case 5.—Ovariectomy on October 16th. Small, adherent, ovarian tumor of right side, size of an orange, a typical colloid cysto-adenoma. Poorly nourished woman, great pain before operation. Discharged well.

As to the removal of malignant growths, RUPRECHT spoke of a case where Osterloh had done so. The patient remained well for nine months, and then there was recurrence in the other ovary. The patient shortly died.

LEOPOLD mentioned a case where he had removed from a sixteen-year-old maiden a carcinoma the size of a man's head. Although the prognosis was very bad, the patient still lived two years after operation.

GRENSER said that he had removed a dermoid cyst within which was a hard carcinomatous nodule. He had treated the pedicle extraperitoneally, and drained through the vagina. Three weeks after operation there had been recurrence in the pedicle. After fourteen weeks, death.

In connection with the castration cases reported by S., LEOPOLD related the history of a woman, æt. 40, who for years, at the menstrual periods, suffered from intense pain, and who in months was only for a few weeks free from pain. Both ovaries were very painful on pressure, the left, in particular, enlarged, nodular, deep lying. Castration was successful; for four and one-half months was free from all pain, but in the fifth month, in concurrence with great mental distress, the paroxysms of pain recurred, lasting for one to two days. The patient's general condition was good. He would, therefore, advise guarded prognosis in such cases, and asked S. for the ultimate results in his cases.

SCHRAMM reported in regard to a castration performed in November, 1884, for ovarian neuralgia. The pains had entirely disappeared, and the patient was entirely well.

KLOTZ could also speak of cure in two cases, where he castrated, two years previously, for neuralgic symptoms.

MEINERT, on the contrary, said that in similar cases he had seen recurrence in six months.

CREDÉ reported a case where, on account of ovarian neuralgia, he removed both prolapsed ovaries through two lateral vaginal incisions.

LEOPOLD said, further, that it was worthy of remembrance that, in those cases where the ovaries were prolapsed and lay between the enlarged uterus and full rectum, in addition to the regular paroxysms of pain, great and regularly recurring pain was apt to follow on defecation.

LEOPOLD reported an operation for

HYDRO-PYO-SALPINX.

The patient was aged 36, had been delivered in 1867 and 1870, had

enjoyed good health up to three years ago, and for two years had suffered from abdominal pain. The uterus was in good position. To the left, a cystic tumor the size of an apple, probably not the ovary; to the right, but deeper in the parametria, a fluctuating tumor, same size. Diagnosis of probable double pyo-salpinx. At the operation, June, 1885, the right ovary was normal, the right tube much enlarged, dilated, and impervious; it was removed with the ovary, the 5-6 cm. pedicle ligatured and cut. On the left side, both the tube and ovary were degenerated into a tumor the size of the fist. It was impossible to remove it, since it lay close, without pedicle, in Douglas' cul-de-sac and it seemed too dangerous to attempt removal by the abdomen. The patient was still well. In case of recurrence of pain from this tumor, it could be opened by the vagina.

The same gentleman spoke in regard to parovarian cysts. He could not believe that simple puncture of such cysts would prevent recurrence. He had removed, by laparotomy, cysts which he had seen refill after puncture. The diagnosis of such cysts was difficult, as was amply proved by two cases, lately, in the Royal Lying-in Institute.

Case 1.—Patient æt. 49; puncture both in 1880 and 1882, on account of cyst of parovarium. Returned for third time, with very large cyst. Laparotomy and removal. The specimen showed that, outside of the large unilocular cyst, which constituted the greater part of the tumor and was surrounded by the greatly stretched tube, lay anteriorly the ovary, on the surface of which were a number of cysts. A simple puncture of the large cyst could not prevent refilling and further growth of the smaller cysts.

Case 2.—Parovarian cyst, with cyst in the meso-colon. Rapid growth. The uterus had been pushed entirely out of the true pelvis by the cyst; and could be readily felt, in greater part, behind and above the symphysis. Anteriorly, to left of umbilicus, the tube and ovary palpable. There was found a very large parovarian cyst to the left, to the right a smaller, and also the already diagnosticated meso-colon cyst, which, after opening the peritoneum, and pushing the ascending colon aside, was removed. The peritoneum was united by suture. The left ovary was removed, the right not touched. Good result in both cases.

The same gentleman discussed the subject of *Kolpo-hysterectomy* in connection with twenty-six operations performed after his own method, without retroversion and turning-out of the uterus. He considered his method as the simplest yet reported; by it, no great after-hemorrhage had been noted, double ligature was not requisite. The steps are: First, separation of the vaginal insertion from the cervix; then, separation of the bladder, and afterwards lateral and posterior freeing of the uterus. Douglas' cul-de-sac is then opened, and a sponge placed within it, to prevent secretion passing into the abdominal cavity. The parametrium is then ligatured in bun-

dles, and each vessel ligatured and cut. As soon as the uterus has been drawn out, the field of operation is cleansed, iodoformed, and, in the wound as well as in the vagina, from fifteen to twenty tampons of iodoform gauze are packed, and these remain untouched for from twelve to fourteen days. On their removal, the loosened ligatures are taken away, and the vagina irrigated. He does not use drainage and irrigation. The speaker had lost but two cases out of twenty-six operated on after this method. In one case, the cause of death did not depend on the method, but on the fact that the carcinoma had extended too far, and an abscess had developed in remnant, from which the patient died eight weeks after operation. In the second fatal case, kolpo-hysterectomy was not intended, but high amputation. Douglas' cul-de-sac was widely opened, however, and the entire uterus had to be removed. The patient died of sepsis.

The same gentleman, in conclusion, reported three cases where, owing to softening of the muscular structure of the cervix, and yet rigidity of the internal os, careful dilatation with Hegar's sounds had caused rupture of the cervix. In the last case, the rent was 2 cm. deep, and followed on the use of the number 16 sound. The patients, owing to careful antisepsis, made a good recovery. Notwithstanding these cases, the speaker believed that this method of dilatation was very valuable, and reported the cases only to lay stress on the necessity of caution where the cervical tissues were relaxed generally, but at internal os were rigid.

KLOTZ related a case of salpingotomy similar to the one recorded by L. Double pyo-salpinx; the right removed by laparotomy; the left, too deep in pelvis and broad-based, was incised *per vaginam*; and then for three months, drained. Wound healed, and no symptoms.

In regard to the parovarian cysts, MEINERT related a case of interest on account of recurrence and frequent puncture. The cyst was the size of an adult head, and could not be entirely removed by laparotomy. All was removed that was possible. Since, there had been recurrence. Then, puncture by vagina, and injection of 30 gm. Lugol's solution, well borne, but again recurrence. Again, puncture; later, a second laparotomy and removal of as much as possible; remainder burnt. Cure.

K. had removed the cancerous uterus seventeen times after L.'s method, with no death, and spoke favorably of the simplicity and other advantages of this method.

SCHRAMM said that, after kolpo-hysterectomy, he had seen fever supervene on irrigation. He recommended Hegar's method of after-treatment. Glass drainage tube surrounded by iodoform gauze.

Both SCHUETZ and MEINERT said that they were in the habit of using Fritsch's dilators; the latter had also seen a case of cervical rupture.

KLOTZ also remembered a case of rupture, with consecutive parametritis, after Hegar's sounds. Since then, had used Ellinger's instrument.

SCHRAMM said that he had frequently used Hegar's sounds, and had never observed either cervical rupture or parametritis.

REVIEWS.

THE SO-CALLED MODIFICATION OF THE NEW EMMET OPERATION.

Ap[ro]pos of the now frequent discussions of the Emmet operation for the treatment of prolapse of the posterior wall of the vagina from loss of fascial or muscular support, I wish to call attention to the fact that the operation is very generally misunderstood, frequently incorrectly explained, and erroneously described under conditions in which error is inexcusable, no matter from what cause arising:

When a gentleman deems his knowledge of any particular subject sufficient to justify him in appearing in the world of letters as instructor of his professional brethren, he should have care that his teachings are true, and, above all, fair.

In the fourth volume of Pepper's System of Medicine, in the article on displacements of the uterus, is a description of the so-called Emmet operation.

The writer prefaces his exposition of the operation by the remark that it is the most "*scientific*" yet devised.

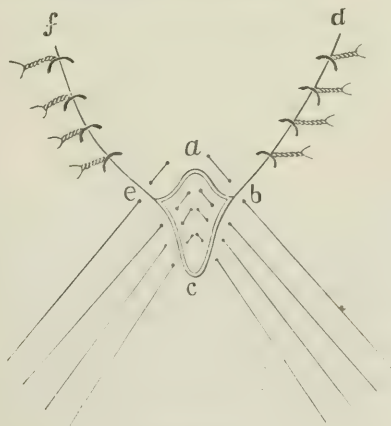


FIG. 14.

Following this statement with a brief description, lucid so far as it goes, except in an *essential particular* which fails to receive any attention whatever, he vouchsafes the following criticism:

The essential part of the operation, inside the vagina, almost always succeeds, but the external part of the rupture, at the pos-

terior commissure, often fails to unite; furthermore, the operation as described by Emmet does not overcome the patulous condition of the introitus vaginae in case of great relaxation of the vagina. The author has sought to obviate the first of these difficulties by the use of deep silver sutures instead of the superficial ones described by Emmet. They should be introduced before tightening the vaginal sutures, and should be passed far around in the posterior vaginal wall, their points of entrance and exit being the same as for the three lower, unsecured, superficial, external sutures. (Fig. 14.)

The second difficulty may be overcome by further denuding a triangular surface on each side in the vaginal sulcus, the base of the triangle corresponding to the line *a b* (Fig. 12), and its apex being in the vaginal sulcus at a distance corresponding to the degree of relaxation. This increases the length of the lines of union running into the sulci represented by *d b* and *e f* (Fig. 14).

Let us consider the first of the objections cited by Dr. Dudley, to wit, the patulous condition of the vagina, holding carefully in

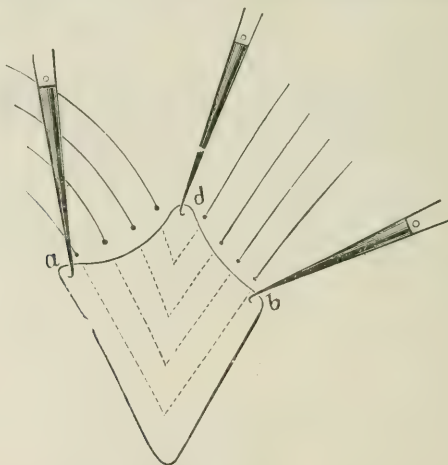


FIG. 12.

mind the proposed plan for its relief. The *deep perineal sutures, it will be remembered, are to be introduced before tightening the vaginal sutures, which have already been deeply introduced, so as to draw the posterior vaginal wall upwards and backwards.* Now, both sets of sutures having been deeply introduced, they must infallibly be crossed, and, when tightened, draw on each other. In other words, the deep sutures recommended by Dr. Dudley can only tend to defeat the result otherwise attained by the vaginal sutures, thus sacrificing the essential portion and object of the operation by a "modification" barren of good results, and in effect only a grafting of the old trefoil operation upon the *new and truly "scientific" method.* The improvement is no improvement, and if it were, it is Emmet's own idea, and not Dr. Dudley's.

In the second modification the merit of improvement is equally well established as in the first, with this difference, that the writer first misunderstands the operation as described by Dr. Emmet, then explains the difficulty arising from his misconception, and,

in a manner truly Quixotic, finally charges down upon it and vanquishes it with an "improvement." This consists, it will be remembered, "in denuding a triangular surface in the sulcus on each side, its apex being in the vaginal sulcus at a distance corresponding to the degree of relaxation on each side."

This suggestion, of course, presupposes that the step does not enter into the original idea of the operation. If we turn to Emmet's Gynecology, p. 375, last edition, the following description of the operation is found: "If slight traction be made with the outer tenaculum, two triangular folds are at once formed, by the apex of each being drawn out by a tenaculum, the upper angle running into the vaginal sulcus on that side, and the other one towards the

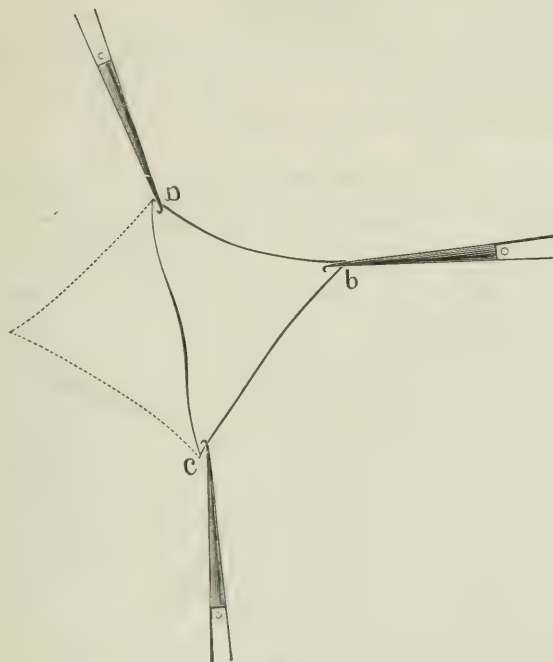


FIG. 13.

skin which would form the outer portion of the fourchette, if it were intact. *These two surfaces are the ones to be denuded and united.*"

Surely nothing can be plainer than that the operation as originally proposed by Emmet embodies the freshening of the tissue in the sulci, and bringing it together by sutures that union may result.

It is plain, I think, that both modifications of the operation under discussion are open to censure; the first, as being subversive of the good results of the simpler method proposed; the second, as being a claim to improvement resting entirely upon a misconception of the method which it is sought to improve.

It is furthermore worthy of remark that in the article to which reference is made, no mention is made to the manner in which the

sutures are to be introduced, an engraving alone affording all information to this important particular of the operation.

Both of Dr. Dudley's criticisms are unfounded and unfair. So far as the results are concerned, the assertion that the patulous condition of the introitus vaginæ is not remedied is erroneous. In a case operated on in this city by Dr. Emmet himself, before a number of the younger professional gentlemen, the results were perfect in every respect. In a very considerable number of cases operated on by myself, a failure of the superficial sutures to cause union of the parts has yet to occur. It should also be held in mind that should the skin embraced by these sutures fail to unite, the success of the operation is not sacrificed, the important procedure being to restore the pelvic diaphragm.

The second defect is "a brain-born dream of evil all his own," and its conception might have been avoided by a modicum of attention to the operative procedure of Dr. Emmet.

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1. A GUIDE TO THE DISEASES OF CHILDREN. By JAMES FREDERICK GOODHART, M.D., F.R.C.P. Revised and Edited by LOUIS STARR, M.D. P. Blakiston & Son, Philadelphia, 1885, pp. 738.
2. THE DISEASES OF CHILDREN. By WILLIAM HENRY DAY, M.D. Second Edition. London: J. & A. Churchill, 1885, pp. 784.

The past year has been unusually rich in the contributions made to pediatric literature. The English writers are certainly outdoing both of the continental schools, and can now be said to be in the forefront, certainly in the practical side of the subject. A general text-book by Eustace Smith, and now a second edition of Day, and a new work by Goodhart have been issued within a year.

This last writer, up to this time but little known on this side of the Atlantic, has given us a book which marks an era in the history of the subject. It is pre-eminently a record of personal experience and observation, and in its style concise, clear, forcible, and interesting, it is almost an ideal text-book. Goodhart has dropped most of the classical but prosy descriptions of disease which tell us all we already know about the subject in stereotyped phrases, but leave us still in ignorance of what we most want to know.

He has grasped and mastered what so many medical writers so lamentably lack—literary perspective.

The result is that he has given us a readable book, particular enough to be clear, without being prolix enough to be wearisome.

As we have just intimated, this is the author's own book; but comparatively few references are made to the writings of others.

Among so much that is excellent it is hard to find fault, and still harder to attempt to give another a fair conception of the book. It cannot be abstracted. We shall content ourselves with noting some views of the author on the subjects most interesting to the American physician.

We notice in this, as in all the other English books, an absence of a good description of summer diarrhea as we see it, and as continental writers have described it. We can only infer that it does not enter so largely as a factor in the mortality records of London as of New York, Berlin, or Paris.

The article on scarlatina is full and explicit. No specific micro-

coccus has yet been discovered, the author thinks, which can be regarded as the contagium of the disease.

The microscopical examination of the kidneys may reveal very marked changes, when there is but little departure from the normal in the gross appearances. Changes in the heart muscle are important in scarlatina; diffuse suppuration of the wall was seen in one case. Simple acute dilatation is quite common. It may depend upon the renal disease, and is to be looked upon as the explanation of some of the cases of hemiplegia and of thrombosis of the heart following this disease.

The terms roseola and German measles or r  theln the author thinks are terribly abused; both these diseases are very uncommon, and many cases so dismissed are really mild forms of scarlatina.

Diphtheria is defined as "a contagious blood disorder, some would say a specific disorder, meaning thereby a disease due to some definite and constant germ. I avoid the term specific, because there are peculiarities about the disease which must raise a doubt whether it may not result from various causes." Its association with scarlatina, measles, and typhoid fever, and its frequent occurrence in connection with bad drainage, are cited as illustrations of this point.

The disease is held to be more or less a local one at the beginning, the germs generating only after some process of maturation at the seat of infection. They gradually work themselves from the throat, where they usually lodge, into the tissues, the lymphatics, and the blood-vessels which carry them to all parts of the body.

With this view of the pathology, we are prepared for the position taken regarding treatment. He says: "first and foremost I place local applications," antiseptics rather than escharotics. The plan is first to detach any membrane that can be reached, and then make the local application. To be effectual, this must be made gently, thoroughly, and frequently, at least every two or three hours. The difficulties in the way are well appreciated and all considered, but these should not deter the physician. Saturated solutions of borax or boracic acid, or a twenty-grain solution of potassium permanganate are preferred, and to be applied by a brush.

The question of tracheotomy is well put. Our author is no advocate of early operation. He believes that the danger of bronchopneumonia and extension of the disease into the trachea is increased by the operation. The traumatism, the irritation of the tube, added to a natural tendency of the membrane to extend downward, make this almost inevitable.

Tracheotomy in diphtheria must be advocated, not on the ground of its harmlessness, but for other considerations. Not the least, is the fact that it allows a more easy and thorough use of local means in combating the disease in the larynx. This is the only ground which admits of its performance before the last possible limit.

The author does not believe that membranous croup and diphtheria are identical diseases. "The only ground," he says, "upon which a distinction can be really maintained is that of clinical symptoms; but this is ground which I do not feel disposed to yield. A similarity of local change is no conclusive argument in favor of a common cause."

DAY takes essentially the same position.

A good point is made, in speaking of broncho-pneumonia following whooping-cough, viz., that these cases, sometimes after persisting for months, not infrequently recover. We must be on our guard against too hastily pronouncing phthisis under such circumstances.

One can hardly repress a smile at what the author considers *large* doses of quinine, which he says are necessary in whooping-cough—he has sometimes given as much as two or three grains (!) three times a day. It shows how much more chary our English friends are in the use of this drug than are we.

We are glad to note the position taken regarding the treatment of empyema. It may be summarized as follows: Aspiration is frequently sufficient in localized empyemas; when generalized it is very useful as a preliminary step to incision to take off the pressure gradually; but in all other cases, early incision, free drainage, thorough antiseptis, dressings changed daily at first, and dispensing with the tube as soon as possible. Washing out of the pleural cavity is rarely called for; excision of a rib is unnecessary in most cases, if the proper treatment is begun early. The exudation in children contains so many lymph flocculi that the siphon plan rarely succeeds. The best commentary on the plan advocated is the statement that twenty-six consecutive cases have been treated by the author with but a single death, this being complicated by purulent pericarditis and peritonitis.

The articles on chorea, rheumatism, and heart disease are, we think, the best that have ever been given to us in a text-book on children's diseases.

Regarding the pathology of chorea, he says that a "study of this disease leads to the conclusion that it is unassociated with any recognizable structural change in the nervous system—that it is, in fact, a functional disease." If it is due to embolism, "Why is the heart murmur produced late in the disease? Why is chorea so uncommon in adults? Why is it relatively infrequent in children compared with the frequency of endocarditis?" He does not think that the heart disease of chorea is mainly functional. It is in the large proportion of cases, organic. In fatal cases, evidences of endocarditis are nearly always present. Chorea is not to be regarded as always rheumatic; though of 141 cases, a rheumatic history in the patient or family was present in sixty per cent.

The characteristics of rheumatism in children are, that it lacks the severity of individual symptoms; the fever is rarely over 101° , the joint pairs are less severe, the swelling has to be searched for to be discovered, and the acid perspiration of adults is almost never seen. The larger number of cases never go to bed. The attacks are transient in duration, and often completely overlooked until the cardiac complications or sequelæ declare themselves. The hereditary tendency is strong, and a clear rheumatic history is of value in establishing a diagnosis in doubtful cases. Of sixty-nine cases, thirty-two gave a good history of rheumatism in near relations, and in only seventeen was such a history absent.

The larger part of the rheumatism of childhood consists, the author tells us, of isolated, and, at first sight, disconnected ailments. These he enumerates as follows: tonsillitis, chorea, valvular heart disease or pericarditis, pleurisy, erythematous affections of the skin, and subcutaneous tendinous nodules occurring generally about joints. Others which are less diagnostic, but still often

rheumatic, are anemia, an extreme degree of nervousness described as "sub-choreic," night-mare, obstinate headache, and stiff neck. This last symptom takes the place of the lumbago of adults.

In the article on heart disease, exception is taken to the statement of Steiner that it is a good rule practically to consider all heart diseases under four years as congenital. Endocarditis is not uncommon even at this age. Of 248 cases, 134 were clearly rheumatic, 59 more were associated with chorea, and only 55 were free from rheumatic taint, 12 of these being congenital. Rheumatic endocarditis is then to be looked upon as the great etiological factor in the valvular disease of childhood. It not infrequently precedes all other manifestations of the diathesis.

A peculiarity of the acute cardiac disease of children is the readiness with which dilatation sometimes takes place; this is often the fatal element. In the treatment of these affections, the author strongly puts the case as follows:

"Absolute rest must be continued for a long time. There is no more important rule in practice, and none more often disregarded. The case has been one of acute peri- and endocarditis, and the heart is smothered in a thick jacket of lymph, its muscular wall swollen and degenerated, and its cavity in all probability dilated. The subject is a child of ten or twelve years. Is two or three months' recumbency longer than is necessary under such circumstances for the repair of so damaged an organ? Is it too much to insist upon when the future of a just opening life depends upon it? The surgeon with the diseased joint makes light of a year of rest, yet who has not seen a child after acute pericarditis skipping about at the end of a month or six weeks as if nothing had been amiss."

These are sensible words truly, and should awaken in the mind of every practitioner an apprehension of the danger of the common practice. If these principles were carried into practice we might see fewer children with hearts irreparably crippled.

But our notice has already extended beyond its allotted space. There are many other points to which we would like to call attention, but time forbids.

The author being a teacher in pathology, has not neglected this branch of his subject, and much that is new and little that is tedious will be found in the chapters relating to that subject. After having read carefully almost every article in the book, we feel justified in making the statement that Goodhart has given to us the best concise discussion on diseases of children in the English language, if not in any language.

The American editor deserves credit for doing what he has done so well. He has not encumbered the book with a mass of new material; but his additions are, for the most part, brief and pointed, and add materially to the value of the book.

The second work before us, by Day, is already known to us in its first edition. Pathological points are touched upon very lightly throughout the book. It is lumbered up by too many formulæ—a common fault with English text-books. Thus, under the head of diarrhœa, he mentions sixteen which may be useful.

Day has given us an excellent article upon tuberculosis, and a good one upon scarlatina. We would take exception to the statement that typhoid fever can be excluded if the temperature reaches 104° the first day, as it is well agreed among most writers

that this disease in children not uncommonly starts in with high fever.

The chapters on nervous diseases are fairly written, but the prognosis of infantile spinal paralysis is made out much more favorable than the facts in the cases seem to us to warrant. The summary of contents given at the beginning of the chapters is an excellent feature of the book, and adds to its usefulness as a work of handy reference. We think too many detailed case reports have been introduced for a work of the size.

On the whole, while the book contains much that is good, the reader will find in it little that is new, and not found in other textbooks, and when one can obtain Goodhart's book we can see no reason for buying that of Day.

L. EMMETT HOLT.

THE BRITISH GYNECOLOGICAL JOURNAL, being the journal of the British Gynecological Society. Edited by FANCOURT BARNES, M.D. Part IV. London: Smith, Elder & Co., 1886, pp. 150.

This number comes to us water-soaked and dilapidated, a relic from the wrecked steamship "Oregon," the bag which held it having been recovered after floating for five days.

The most interesting paper which the number contains is one by DR. IMLACH, describing a new operation, *oöphorrhaphy*, which he has devised, and citing fourteen cases where it was successful. He asserts that, where the tubes are healthy, but where there is marked prolapse of the ovary with *oöphoritis* and severe ovarian pain which is not improved by ordinary treatment, a condition for which nearly all authors now advise removal of the uterine adnexa, a cure can be attained by his operation essentially as follows: Through a median abdominal incision two fingers are passed, uterine and ovarian adhesions are separated, the ovary is picked up and brought to its normal position on the posterior fold of the infundibulo-pelvic ligament and secured there by a single suture passed through its hilus, this manœuvre also tending to remedy the obstinate retroversion often found in these cases.

While *oöphorrhaphy* is in many respects a conservative operation when compared with *oöphorectomy*, yet any procedure which necessitates the opening of the peritoneal cavity is of necessity a capital operation and should not be done without good and sufficient reason, no matter what statistics expert operators may show. As, in most cases where the symptoms are grave enough to demand laparotomy, the ovaries or tubes show evidence of structural degeneration, and as *oöphorrhaphy* can hardly be expected to relieve where there are marked organic changes, the indications for the operation of Imlach will necessarily be limited, still, especially in young women, where the indications are found, the operation should be tried, and, if future results bear out his representations, Dr. Imlach is to be congratulated for an important advance in the surgical treatment of ovarian disease.

DR. R. T. SMITH's paper on cervical laceration is of no interest to readers on this side of the Atlantic, save as showing the growth in favor of Emmet's operation in England, as it is merely a rehearsal of matter which has already been discussed here over and over again, substantially the same facts having been recorded by Emmet himself as long ago as 1874 (*AM. JOUR. OF OBST.*, vol. vii., p. 442 *et seq.*) and by Mundé in 1879 (*ibid.*, vol. xii., p. 117, which see for literature to that date). Dr. Smith is convinced that the operation is a valuable one, having closed more than fifty cervical rents

with good results. In the discussion of the paper, Dr. Aveling said that he treated all cases of ectropic erosion by the actual cautery, and got better results than by Emmet's operation: this same treatment was advocated by Dr. Routh, who said that, in the course of a large experience, he had seen but one case which could not be cured by "adustion;" he further stated that lacerations were much more common in America than in England, "because in the wilds of America there were often not only *no* doctors near, but not even midwives: women being delivered without proper aid by other ignorant matrons, it might be by their husbands, or the veterinary practitioner in the neighborhood." When will our English brethren learn that we are at least civilized, that our women are not attended by the village horse-doctor, and that we generally know what we are about, and do not advise or perform a surgical operation unless we have good reasons for so doing? The question of the relative merits of the old treatment of cervical tears by *firing* as compared with the modern method of closing and so removing the laceration and its consequences we cannot here discuss; the reader who is conversant with modern views regarding the healing of wounds and the formation of cicatricial tissue can easily answer the question for himself.

DR. PURCELL asked, in a discussion on "Removal of the Uterus," whether it could not be detached and removed from the peritoneum covering it, as then it could be removed without entering the peritoneal cavity. As this question was not answered, it may be well to state that the same point was broached by Dr. Mundé at the meeting of the New York Obstetrical Society, October 17th, 1876, and was answered in the negative by Drs. Noeggerath, Peaslee, and Thomas. Dr. Mundé afterwards found by actual trial on a number of uteri that the peritoneum could be easily peeled from the uterus up to about the level of the internal os in front and a little higher behind. Above this point the peritoneum was so firmly attached to the muscular substance of the uterus that it could not be cleanly separated even by cutting.

DR. EDIS, in an eminently practical paper on exploration of the uterine cavity in menorrhagia, enforces the necessity for—what many are inclined to overlook—local examination and treatment after a fair trial of other means has been made and failed, the narrative being illustrated by a few typical cases where dilatation of the uterine cavity and the finding and removal of a small unsuspected fibroid or placental polypus had cured where other practitioners had failed or had pronounced the case hopeless.

DR. ALFRED MEADOWS, the retiring president, in a graceful and masterly address of some twenty pages, speaks of the wonderful growth made by the society in its first year; of its prospects of future success; of the amount and quality of the work done by its members; of its cosmopolitan character, etc.

This British society is, I believe, the first that has ever conferred a high official position upon other than a British subject, the names of Mundé and Pinard being among those of its vice-presidents.

In addition to what has been noted, there is a description of an ingenious "pessary douche" devised by Imlach, the usual summary of gynecology and obstetrics, and a list of the fellows of the Society and of its officers for 1886.

This number completes the first volume, which, for artistic

effect, typographical excellence, and general make up reflects great credit upon its gifted editor, Dr. Fancourt Barnes.

BROOKS H. WELLS.

TRANSACTIONS OF THE NEW YORK OBSTETRICAL SOCIETY, from May 17th, 1881, to March 17th, 1885. Reprinted from the *New York Medical Journal* for private distribution by the Society. New York: Appleton & Co., 1884. Vol. III., pp. 375.

The subject matter of this volume, having already appeared in the pages of the JOURNAL, needs no critical review to tell of its value.

Containing, as it does, an epitome of most of the obstetrical and gynecological work done in this city between the dates mentioned, we can only express regret that the volume has not been placed where it could be procured by the general mass of the profession interested in this important branch of medicine. By its exclusiveness in this respect, the Society greatly lessens the scientific benefit which should result from its work.

Further, we notice that the names of scarcely a third of its members appear as having taken any active part in its transactions, either in presenting original papers or material, or in discussing the subjects presented at its various meetings. It seems to us, after a very thorough acquaintance with the innermost workings of this Society, that its value and influence as a scientific body would be vastly enhanced if the Society were rendered more accessible to the members of the profession at large, and if the scientific features of the meetings were made more predominant.

Not until the New York Obstetrical Society follows the lead of the London, Philadelphia, and other prominent societies, and opens its doors to all reputable members of the profession, will it attain the position which the representative society of so large a city as New York should hold, and will it accomplish the object for which it was founded.

ABSTRACTS.

1. Lecorche: Diabetes in Connection with Uterine Disease, Menstruation, and Pregnancy (*Annales de Gynécologie*, October, 1885).—Diabetes is proportionately of most frequent occurrence before puberty and at the menopause. Thus, out of 114 cases, the disease was noted 70 times in women who had ceased to menstruate. Menstrual life would seem to carry with it a certain immunity against the disease. (Why this statement, is scarcely apparent, seeing that out of the 114 cases observed by L., 37 were of women during menstrual life, whilst only 2 were of young girls before puberty.) The disease, however, when it occurs during menstrual life, is of a more virulent type than when it attacks women who have reached the climacteric. The most virulent form of all, however, is premenstrual diabetes. Indeed, the same rule holds for woman as for man—the acuteness and intensity of diabetes are in inverse ratio to the age of the patient.

The lesions, in general, impressed on the genital system by the disease

are: A, Eczema of the vulva; B, Granular metritis, degeneration and alteration of the cervix; C, General uterine lesions.

A. Eczema of the vulva is of very frequent occurrence, in the proportion of about one-third, or, as noted by L., in 32 out of 114; of these 32 cases, but one was under 40 years, all the others beyond 40, 9 between 60 and 72 years. Frequently, eczema is the symptom which suggests diabetes, although, on close questioning, it will be determined that polyuria, great thirst, loss of flesh, and the like diabetic symptoms existed for some time before the appearance of eczema. Usually the disease has existed three to four years before the eczema. The amount of sugar in the urine will not account for the eczema, for L. has noted the disease in cases where from 105 to 400 grams of sugar were eliminated in the twenty-four hours, and also in cases where the amount was but 7 grams. The eczema is, therefore, partially constitutional, as witness the fact that coincidentally with the vulvar eruption, the disease may appear on other localities of the body. The disease, hence, is in part diabetic, in part due to the local irritation of the urine. Is this local irritation due directly to the sugar in the urine, or secondarily to the fermentation products? Most likely to the latter. If the eczematous crusts be examined under the microscope, there are uniformly detected oval spores and the filaments of the *saccharomyces cerevisiae*. These spores are not of themselves responsible for the eczema, but they provoke fermentation in the saccharine urine which is secreted, and thus make the urine an irritant. Whatever the cause, the main symptoms of vulvar eczema are itching, the eruption, abundant discharge from the diseased surface. (L. here describes the appearance of vulvar eczema and its complications, points on which it seems unnecessary to dwell here.) Whether vulvar eczema be accompanied or not by other general or local symptoms, *pruritus* is a symptom of undeniable value; for, often, in woman, the symptoms of diabetes are not at all marked, and then a persistent eczema which does not yield to local measures of treatment should ever suggest the possibility of diabetes as a cause, this being readily determinable through an examination of the urine.

B. Granular degeneration of the cervix frequently accompanies the eczema, and frequently also there exist pharyngeal granulations. Here the irritating element contained in the blood of diabetics seems to attack, by preference, the mucous surfaces. A granular endometritis may rarely suggest a latent diabetes. The disease, however, complicates a late as well as an early period.

C. Every utero-ovarian lesion may exist in connection with diabetes—L. has noted two cases of fibrous tumors, one cyst of the ovary, one case of *métrite fongueuse* (hyperplastic endometritis?). * Of course, we deal here not with cause and effect, but with pure coincidentals.

The further questions considered by L. are the influence of diabetes on (1), menstruation; (2), pregnancy and labor; and, finally, (3), the influence of pregnancy on diabetes. The menstrual troubles accompanying diabetes are variable. Occasionally it is dysmenorrhea, and then amenorrhea or suppression to the extent even of leading to a premature menopause. It is not likely that diabetes directly affects menstruation. More likely the menstrual derangements are the followers of the effect of the disease on the system in general, and, in case of menorrhagia, the

result of the local lesions, granular degeneration of the cervix and endometrium which frequently accompany diabetes.

Diabetes does not deprive the woman of the power of conception. If pregnancy in the diabetic is proportionately rare, the cause of sterility must be sought in the uterine lesions which have been indicated as accompanying diabetes. The course of pregnancy is not necessarily interrupted by the disease, but the fetuses are apt to be weak, and two out of four noted by L. were hydrocephalic. Although L. did not note serious trouble in the pregnant women affected with diabetes under his observation, in eleven out of fifteen cases collected by Matthews Duncan, death resulted from the disease within from three days to eight months after delivery; in two cases, at the end of fifteenth months to two years respectively—the one tubercular, the other of diabetic coma. Such gravity of the disease in pregnant women is not surprising, however, when it is remembered that diabetes developing before the menopause is especially virulent.

From the researches of Duncan, it is evident that pregnancy influences greatly for the worse the prognosis of diabetes. If the disease be not soon fatal, its phenomena are exacerbated. It should be noted, however, that in many cases diabetes disappears for a longer or shorter time after delivery. In a case recorded by Bennewitz, the disease appeared at the fourth, fifth, and sixth pregnancy, disappearing after each. In general, labor, even like menstruation, is followed by a diminution in the glycosuria. This effect, however, is purely transitory. The ultimate result is a marked aggravation in the symptoms, leading, frequently, to early fatality.

E. H. G.

2. Pritzl: A Case of Labor under Hypnotism (*Wiener Med. Wochen.*, November 7th, 1885).—This case is unique, and offers a number of points of interest. M., æt. 26, of good family and personal history, admitted into Carl Braun's wards to await her confinement. The course of her pregnancy had been remarkably free from subjective nervous symptoms, but on the first examination it was determined that she could be readily hypnotized, the influencing agent being a bright thermometer case. Whilst hypnotized, she was perfectly senseless and anesthetic. Not more than ten seconds was required to hypnotize her; she did not react to needle pricks, rubbing of the cornea, irritation of the nostrils. Her appearance was natural, pulse and temperature unchanged. The upper eyelids were at times tremulous; the globes of the eyes rotated outward; pupil-reaction good; extremities relaxed; when patient placed upright no sustaining power in limbs. The fetal heart was not altered in the least during hypnotic state of mother. The spell lasted, at the will of the bystanders, from a quarter to half an hour. Patient readily brought to by massage, cold to the eyes, etc., when she would awaken, rub her eyes, look around with a dazed expression, say she felt well, and then sink into a deep natural sleep. Labor set in on the 30th of October, and but little progress was made by the evening of the 31st, owing to short ineffective pains. A narcotic being indicated, it was determined to test hypnotism. The external os barely admitted three fingers, although the membranes had been artificially ruptured some hours previously. With some difficulty, the patient was persuaded to glance at the thermometer case, when, instantly, she sank into the hypnotic sleep.

This occurred at a quarter to eleven. The pains at once altered in character, becoming regular and strong, the abdominal walls contracting efficiently. The patient, however, was oblivious to the pains. In one-half hour, the child was born. It cried at once. After a short interval, the uterus began to work actively, and the abdominal power was greater than P. had ever witnessed during the third stage. At twelve o'clock the placenta was delivered. Application of ammonia to the mother's nostrils awakened her; she was surprised that labor had terminated, and could scarcely believe the child was her own. She affirmed she had felt nothing, and shortly was sleeping peacefully. The puerperium offered nothing of note.

P. does not attempt to explain this case. Likely enough the power (?) of hypnotizing lay within him, for he had previously been able to hypnotize two other pregnant women in the clinic, although the phenomena were not so marked as in the above reported case.

E. H. G.

3. Eastman: Four Cases of Abdominal Surgery, with Remarks (*Indiana Medical Journal*, Jan., 1886).—Two of the cases were operations for removal of the uterine appendages for dysmenorrhea, and two for removal of ovarian cysts.

The first two cases were not reported to show that the removal of the uterine appendages was a remedy for dysmenorrhea, except in cases where careful and thorough examination revealed decided organic changes in the ovaries, or tubes, or both combined, and not even then until bromides and ergot, with hot milk in large quantity by the stomach, hot water in great quantity by the vagina, and a thorough trial of galvanism had failed to cure. There were many cases of hysteric, cataleptic, epileptic, morphine-poisoned, nerve-wrecked, brain-shattered, reason-dethroned, asylum-homed women whose lives were scarcely worth living. These women were sterile, their uterine adnexa essentially decaying foreign bodies, and their removal was justified by sound surgical principles.

E. strongly advocates the early removal of ovarian tumors, because when first detected they are generally not large, their walls are thin, a single cyst is common, there are no adhesions, only a small incision is necessary in the abdominal wall, and if the peritoneum is not opened until the oozing has ceased, the sac can be withdrawn without any fluid entering the cavity.

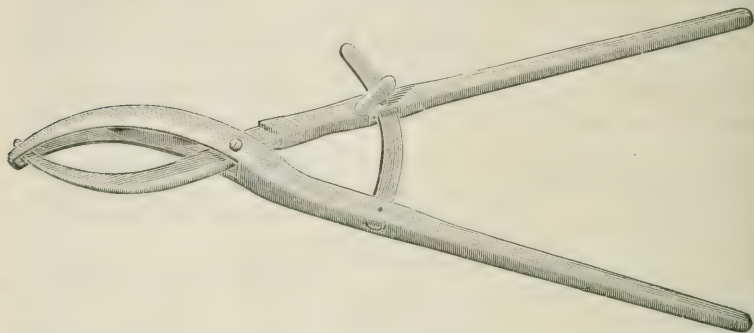
[He might also have stated that malignant degeneration is much less apt to occur while the tumor is still small.] The most advanced views of successful operators are given in our medical journals. To wait, as has been suggested, for these tumors to "ripen," is to allow them to ripen, not for the scalpel and ligature of the successful surgeon, but for the *sickle of death*. E. mentions several cases where patients have died while waiting for operation, and quotes a personal letter from Mr. Tait, in which he admits the great benefit of early operation.

That "surgical crime, tapping," is denounced, because you cannot know what you tap! You don't know the consistence of the fluid; it may run through an aspirator needle or be so thick that it would not run through a five-inch stove-pipe; it may be a malignant mass and still seem to be fluid; it may be a cyst with thick partition walls, and the needle enters an extremely vascular point, blood being poured out to undergo

decomposition after the needle is withdrawn ; or the cyst and abdominal walls no longer in close contact may allow the escape of fluid, septic or otherwise, into the peritoneal cavity.

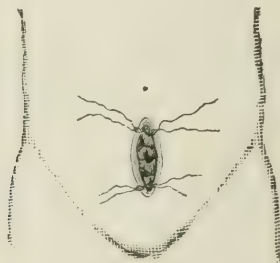
Ovariectomy is not now and never will be an operation to be undertaken by every one who does surgery or teaches obstetrics or gynecology. As has the operation for cataract long been given over to those especially fitted by nature, knowledge, and skill, so let abdominal surgery be practised by the few, and let all operators report their work honestly.

E. has devised a clamp for ovariectomy which is simple, handy, strong,



and efficient. It can be instantly applied and will crush a substance from the size of a shoe-string to the base of a tumor six inches in diameter.

When removing small ovaries and tubes, in introducing the fingers to find and bring the ovaries to the surface, there may be a separation of the



peritoneum from the fascia or integument from the muscle, allowing a considerable amount of blood to drip into the abdomen. To prevent this E. stitches with a small crooked needle the peritoneum to the integument at each angle of the wound, leaving the ends of the thread long, to be held by an assistant if necessary. These threads are not removed until the wound is closed, thus keeping the peritoneum in place from the first.

E. makes no apology for continually presenting his work to the profession, he hoping thereby to induce physicians to accept views in advance

of the text-books ; he wants every doctor and every woman to be wide awake to the advantages of early operating and to the danger and death from delay.

B. H. W.

4. Harrington : Severe Hemorrhage from Ante-partum Separation of the Placenta, with the Infusion of Sixty-six Ounces of Salt Solution (*Boston Med. and Surg. Jour.*, March 4th, 1886).—This case, in the treatment of which Dr. Harrington showed great pluck, had, previous to her pregnancy, a slight endometritis. At the end of the eighth month, after lifting some small article, she felt a severe pain in the back which was followed after half an hour by a sudden rush of blood. Labor pains came on and were severe and almost constant, the cervix was low down in the pelvis, hard, and undilatable, admitting with difficulty the fingertip.

Four hours later there was a second severe hemorrhage which was controlled by plugging the os with the finger ; patient was blanched ; pulse, 120. Ether was given and attempts were made to dilate the cervix which finally tore. Child was delivered by turning, placenta coming alongside of it. Profuse hemorrhage continued during these manœuvres. Uterus contracted well, but hemorrhage continued even after injection of hot vinegar and water. Speculum showed that it did not proceed from cervix, and ferri subsulph. was used, flow ceasing. Hypodermics of stimulants were given repeatedly ; legs bandaged to hips, and patient inverted, but she remained blanched, almost pulseless, gasped for breath, and was rapidly sinking. Infusion was now tried, thirty-six ounces of a salt solution being passed into the right median cephalic vein (through a glass funnel, rubber tube, and large aspirator needle tied into the vein ; previously exposed by dissection) with immediate and marked effect ; the gasping ceased, a faint flush appeared on the face, pulse fell to 120 and was of fair strength. Forty-five minutes later another sudden and severe flow occurred. This was controlled, but the patient's condition was most desperate. Other means of stimulation proving unavailing, infusion was again tried as a last resort, thirty ounces of the salt solution being added to the circulation in forty minutes. The pulse reappeared, ranging between 150 and 160, and could only be accurately counted at the chest. In twelve hours it dropped to 140 and was strong ; in thirty-six it fell to 130. Patient recovered. NaCl in urine was diminished greatly for several days. Examination of patient's blood showed diminution of red corpuscles from 4,500,000 to 1,838,000 per cmm.; the anemia was progressive until the twelfth day, when the red corpuscles had diminished to 1,180,000 per cmm.; after this they increased, and on the twenty-second day had reached 2,040,000 per cmm. The white corpuscles were largely increased. The salt solution recommended is that of Mikulicz : R Sod. chlor., 6.; Sod. bicarb., 1.; Aq. destil., 1,000. M. Sig. Inject from one to three pints at a temperature of 100° F.

B. H. W.

5. Byford : The Production and Prevention of Perineal Lacerations during Labor, with Description of an Unrecognized Form (*Jour. Amer. Med. Ass.*, Vol. V., No. 10).—The author begins by calling attention to the "obstetric perineum," and to its normal hypertrophy, which occurs during pregnancy, dividing it, for purpose of illustration, into two parts: the vulvar or external, and the vaginal or internal portion. When, in labor, the occiput presses against the perineal

body, so as to put it somewhat upon the stretch, we can, by hooking the finger over the fourchette, and pulling outwards, at the end of a pain, when the head is just beginning to recede, demonstrate two perineal rings. The external, the smaller, formed by the edges of the labia majora and fourchette, is elastic, of a well-defined oval shape, and attached to the pubic bone above the clitoris. The internal ring corresponds to the labia minora and anterior edge of the perineal muscles and fascia, and feels like a whip-cord stretched from the clitoris down through one labium minus, across the lower edge of the vaginal orifice, and up through the labium of the opposite side to its starting-point. As the perineum becomes more distended, the distance between the lower edges of these rings increases. The vulvar perineum contains no muscular fibres, and extends from the inner ring outwards; the vaginal extending from the inner ring, or anterior edge of the perineal muscles backwards. If the vulvar orifice be not well relaxed or dilated, the advancing head will stretch the perineum four or five inches antero-posteriorly, push the fourchette upward instead of downward, and drive the perineal rings before it, instead of dilating them and passing through them, and will cover itself with the flattened perineum, in which the muscular fibres are separated, and the fascia stretched to their limit of resistance. The expulsive pressure now directed against the perineal centre of resistance is counteracted by the almost direct counter-pressure from that centre, and the retractibility of the over-stretched and flattened tissues being but feeble, the head remains nearly stationary, and rupture is almost certain to result.

Laceration of the vulvar perineum occurs when it is stretched as just described, and the most rational way of preventing it is to stretch the external ring until its lower edge corresponds to the lower edge of the internal ring, and keep it there until both slip over the head together, the external perineum being protected behind the internal. Laceration of the vaginal perineum is prevented by securing a slow advance of the head over the deeper and posterior portions, and by directing the occiput upwards under the pubic arch. The proper way to secure this directing force is to dilate the vulvar and vaginal rings, so that the occiput will engage in them before the forehead has got beyond the ligamentous perineum. Then the lower edges of the two rings become a directing power, and lift the occiput up under the symphysis through the already dilated outlet. This descent of the lower edge of the rings brings the tissues together in a solid mass near the anus, and renders them capable of meeting any ordinary propelling force without danger of rupturing. Keep the membranes intact as long as possible.

Besides the ordinary tears of the perineum, the author describes a subcutaneous rupture or diastasis of the perineal muscles, of which he says that, while its effects have been noted, it has not been recognized as a laceration. [In this, I think, the author is mistaken, practically the same condition having been described by Hadra (*AM. JOUR. OF OBST.*, 1884, p. 368-69), who compares this form of laceration to a "diastasis of the recti abdominis, which give way, while the mucous membrane and integument remain undisturbed;" by Schatz (*Cent. für Gyn.*, No. 40, 1883), and by Emmet (*Prin. and Pract. of Gynecol.*, 1884, chap. XX.)] Byford operates in these cases by endeavoring to bring the ends of the

broken fibres together by two or three deep stitches, taken from the cutaneous surface, and avoiding puncture of the vaginal or rectal mucosa. Care must be taken not to confound this form of laceration with that condition of the parts in old primiparæ in which there is insignificant rupture of muscular fibre or of the superficies, but extensive and severe bruising; in such cases, the parts are much discolored and benumbed, the perineum seeming like a thick piece of soaked leather, and retaining a somewhat wrinkled shape for many hours. B. H. W.

6. Eisenhart: A Case of Hernia into the Inguinal Canal of the Right Horn of the Gravid Uterus (*Archiv f. Gyn.*, XXVI., 3).—Hernia of the uterus is an exceedingly rare affection. Relatively, hernia in the linea alba is frequent, but there are only a few cases recorded of this accident at the ischiadic or obturator foramina, or the crural inguinal rings. There are but five cases on record of hernia of the non-gravid uterus, and these have been reported by Marat, Lallement, Chopart, Olshausen, and Leopold (these cases are given in abstract). These five cases teach us that hernia of the uterus is always accompanied by hernia of one or another of its adnexa, and further, that there is usually associated a fault in development of the uterus. Hernia on the right side is as frequent in occurrence as on the left. The affection is not, notwithstanding Klob's assertion, more frequent in children than in adults. As for hysterocele of the gravid uterus, there are but six cases on record—Pol, Sennert, Laxtreph, Lédema, Rektorzik, Scanzoni (these cases are given in abstract, as well as references to the literature). E. adds a further case, which he reports at length from Winckel's records. The case, briefly, concerns a patient gravid in the right cornu of a uterus bicornis. The patient had an inguinal hernia, and, at the third month of pregnancy, under the influence of strong intra-abdominal pressure, the uterine horn was also forced into the inguinal ring. The patient was aged thirty-six, and had previously been delivered seven times at term. Since the birth of her first child had been affected with double inguinal hernia, readily retained by trusses. Eight or nine weeks before entering the Munich clinic, she noticed a marked and sudden increase in size of the right hernia. Energetic and forcible attempts at reposition were made by a physician, without effect, except that the fetal movements, previously apparent, now ceased. The increase in size of the rupture and the pain she suffered caused her to enter the hospital. The appearances presented were the following: The left inguinal ring admitted readily two fingers. On the right, a tumor, extending to the middle of the thigh, started from the inguinal canal, 31 cm. in length, the diameter at its upper portion being 34 and at its base 35 cm. The right labium minus was spread over the lower surface of the tumor. The tumor moved slightly with respiration; it extended above to within 7 cm. of the umbilicus, to the right $5\frac{1}{2}$ cm. from the anterior superior spinous process, to the left nearly to the symphysis. To the right, near the base, coils of intestine could be felt. The right ovary could readily be mapped out above the uterus, and in the tumor the head and breech of the child could be determined. Uterine souffle to be heard. By vagina, the cervix lay 2 to 3 cm. above the right spinous process of the ischium, and plainly in connection with the external tumor. Attempts at reposition under chloroform were made, and the tumor could be almost entirely replaced to internal ring; but as soon as

pressure was removed the hernia recurred. The induction of premature labor was next resorted to, but since, at the end of two days, the desired result had not been attained, it was determined to resort to laparo-hysterectomy. The operation succeeded, and the patient eventually made a good recovery. The removed tumor was the size of an ostrich egg, ovoid in shape, and weighed 760 gm. In length, from 22 to 24 cm.; in horizontal diameter, 29 cm. The fetus was doubled up, its head at the base of the tumor, the left foot, the right arm and hand similarly so. The fetus weighed 209 gm., and was developed to about the middle of the fifth month. In the right ovary was the corpus luteum. The uterine horn consisted of ovary, tube, and portions of the round and broad ligaments.

From an analysis of the few reported cases of hysterocele, E. makes the following statements in regard to cause, diagnosis, and treatment: In regard to cause, there are three tenable theories. 1. Either the omentum or intestine contracts adhesions through local peritonitis with the uterus, and this organ is then, from mechanical traction, drawn into the hernia site (Chopart's case belongs here). 2. Hysterocele is a lesion secondary to primary hernia of the ovaries and tubes (this is Klob's explanation, and Lallement's, Olshausen's, and Scanzoni's cases belong here). 3. Hysterocele is a vice of development, there existing non-obliteration of the canal of Nuck, and the ovaries are therefore able to descend into the inguinal canal, to be followed by the uterus (according to Schultze; and here belong Maret's, Leopold's, Rektorzik's, and Winckel's cases). It is evident that great increase in intra-abdominal pressure may lead to hysterocele, and as predisposing causes may be noted—pre-existing hernia, numerous labors following quickly on one another (Dohring's patient had borne nine, Winckel's eight, Lédésma's eight children).

The diagnosis is not a difficult matter. The main question to be decided, where the hernia consists of a gravid sac, is as to whether the gravidity is uterine or extrauterine. Extrauterine pregnancy is itself rare, and there is but one case on record, and this a doubtful one, of herniated extrauterine sac. By the conjoined methods of examination (vagino-abdominal, recto-vesical), one can satisfy himself that the uterus does not occupy its correct position, but that the portion of the body felt by the vagina is part and parcel of the body occupying the rupture site.

The prognosis in case of hysterocele of the gravid uterus is grave. As for the treatment, in no case on record was reposition possible, neither where gravidity did not complicate (here adhesions prevent), nor where it did (here the size of the tumor prevents), still taxis should ever be resorted to. If reduction be impossible, in case of hysterocele not complicated by gravidity, the radical operation for hernia is indicated; where uterus is gravid, occasionally nature assists, through abortion (Scanzoni's case), and the induction of labor should be attempted. If the pregnancy be near term, the sectio Cesarea should be undertaken, and has been four times with three maternal deaths and one fetal. Where the gravidity exists in a single horn of a double uterus (as in E.'s case, herein reported), amputation of this horn, after Porro, should be the rule, since the patient is thus not deprived of the chance of bearing other children.

E. H. G.

7. Toeggler: A Dwarf's Pelvis with Lumbo-sacral-kypnosis. (*Archiv f. Gyn.*, XXVI., 3).—The case herein reported is particularly inter-

8. Mekertschiantz: Rupture and Prevention of Rupture of the Perineum (*Archiv f. Gyn.*, XXVI., 3).—The first portion of this very elaborate paper is historical, in the sense that an account is given of the various means resorted to, from the earliest times, for the prevention of perineal laceration and of the opinions extant in regard to the causes of laceration. From this sketch, it is apparent that in the past, even as in the present, there was wonderful diversity of opinion in regard to what constituted a laceration worthy of account, and in regard to the best method of prevention. Statistics for the settlement of the percentage of lacerations are worthless, seeing that what one man calls a laceration another does not (and seeing, too, we would add, that by far the larger proportion of practitioners do not examine the perineum after labor to see whether or not it has been lacerated; and this is why even to-day men of large practice will say that a laceration never occurs in their hands). Examination after the puerperal period will not suffice towards obtaining reliable statistics, for it is granted that spontaneous healing is possible. Generally, further, an unrepaired perineal rent shrinks and cicatrizes, and often superficial examination, some time after labor, will result in the opinion that laceration had not occurred. Probably the nearest percentage of rupture in primiparæ, not including injury to the fourchette, is Olshausen's of fifteen per cent.

The causes of perineal rupture emanate, in general, from, 1. the mother, 2. the child, 3. the mother and child together. From the side of the mother, the factors which, broadly, lead to laceration are: Anomalies of pelvic outlet, projections of the sacral vertebræ, anomalous sacral curvature, capacious sacral hollow, deep symphysis and anomalous axis of rami, ankylosis at sacro-coccygeal joint, anomalous pelvic obliquity, rigidity and alterations and abnormalities in the soft parts. M. then proceeds to a brief description of the anatomy of the perineum, and concludes that there are, in particular, two localities at the outlet of the pelvis which are narrowed and oppose obstacles to the exit, without rupture, of the fetus—the point of crossing of the muscle of the constrictor cunni, and the posterior commissure. Two localities of minor importance are the introitus vaginæ, the constituent parts of which partake of the cavernous tissue, and hence are liable to tear, and the anterior commissure, where rupture frequently occurs in primiparæ. There is ever great difficulty in deciding as to where the rent of the perineum ordinarily begins. Olshausen says that the constrictor cunni always tears first; others place the point of beginning rupture at the introitus, others at the fourchette. To look at the matter broadly, aside from pathological alterations in the perineum—the results of cicatrizations, tumors, condylomata, etc.—rupture occurs, according to one, where the perineum is too short; according to another, where it is too long, according to still others, where it is too broad or too narrow. (The influence of these various formations of the perineum on laceration is instanced by literature references and quotations.) Further factors influencing rupture are the age of the patient, want of elasticity in perineum, disproportion between fetal head and maternal parts. The liability to rupture increases with age of patient, as is well shown by Fasbender's table:

Age from 15-20	21-25	26-30	Above 30
Rupture % 30.4	34.	38.	50.

The causes of rupture from the side of the child are numerous, altogether aside from congenital vice and abnormality, such as hydrocephalus, ascites, tumors, etc. Reference is more particularly made to the influence of the fetal head, shoulder, and breech. In regard to the head as a factor, there exists great diversity of opinion. Winckel, Schroeder, and others believe that a large head endangers the perineum; Hecker and others maintain the contrary, for the reason that a large head slowly distends the introitus, a small one makes exit quickly. This opinion the adherents attempt to explain by statistics. It seems that in sixty-five per cent of ruptures the head was actually smaller than in sixty-nine per cent. This diversity of opinion leads M. to a discussion of the subject of moulding of the fetal head, and form restitution. (Of interest, but space forbids more than reference.) The age of the mother has an influence on the size of the fetal head. The older the mother the larger the head; and with each succeeding labor the tendency is towards larger head, and absolute increase in weight and of length of fetus. The shoulders and chest of the fetus may be so developed as to prove an obstacle to labor. Here, again, there is diversity of opinion. Kilian maintains that perineal rupture is usually due to the shoulders; Joulin, on the other hand, contends that it is difficult, in any individual case, to say whether the head or the shoulders caused the rent. The majority of authors believe that the head oftener is at fault than the shoulders. In general, it may be stated that any fetal part may cause rupture, the elbow, knee, hips, etc.

The various presentations of the head are still further factors in the mechanism of perineal rupture. Presentations of the chin are unfavorable to the integrity of the perineum, as also face, although Olshausen contends that face are not so unfavorable as posterior presentations of occiput.

This preliminary discussion leads to an analysis of the various means and methods resorted to for the prevention of perineal rupture. These methods aim at prevention of rupture in the vagina, at the vulva into the perineal body, through the rectum. The antique method, still resorted to by certain modern accoucheurs, of placing oleaginous and the like substances in the vagina, whilst they relieve dryness of the parturient canal, scarcely assist in maintaining the integrity of the perineum. Further means aiming at preparatory dilatation of the vagina are distention by means of one or two fingers or the entire hand, the hand or instruments between the fetal presenting part and posterior vaginal wall to relieve pressure by the former on the latter. Such attempts and manipulations do not accomplish the end in view, but simply disturb labor, and inflict unnecessary pain on the parturient. The forceps is a favorite instrument for prevention of laceration. Certain Americans thus aim at diminution of the fetal head diameters by compression. (Do they not rather aim at retarding delivery by the forceps, and thus give the perineum an opportunity to relax?) M. believes that the forceps add to the danger of perineal laceration. Statistics favor this belief: of 31 perineorrhaphies by Baker Brown the lesion was due in 13 to forceps. At the Halle clinic, of 244 forceps cases, rupture occurred in 31.1%, whilst the rupture percentage in spontaneous labor was 20.6%. (Such statistics are very fallible on account of the varying amount of skill possessed by

one or another operator in forceps delivery. The fact is, that many a head has been delivered by forceps without rupture when before the application of the instrument rupture seemed imminent. In any individual case, however, no one is in a position to assert that, had not the forceps been used, ruptures would not have occurred, or *vice versa*.)

Rupture at the vulva may be prevented by retarding delivery of the head. There are many ways of accomplishing this which M. refers to. (It is unnecessary to recapitulate these means. We pass to the next consideration, prevention of rupture through the perineum.) The classical method of preventing rupture through the perineum, and the method now generally taught, aims at support of the perineum, and the various methods of support are detailed by M. This method he considers as useless, and, indeed, dangerous to the perineum. He would reject the old term and method of support, for the reason, as is noted further on, that the perineum does not require to be supported, but to be relaxed. Other means resorted to for maintaining perineal integrity are, hot fomentations and baths of the genitals, resort to chloroform, posture of patient, episiotomy. This latter means has been lately resuscitated, and at one time, not so long ago, was received with such favor that there was danger of the operation being performed on every woman at the onset of labor. Experience, however, teaches that laceration occurs even notwithstanding episiotomy. It is a means, therefore, resort to which should be reserved for very exceptional cases.

M. now passes to a description of his favorite method, the idea of which is old, but it has never been systematically resorted to, and according to rule. The method aims at retardation of the fetal part, and at relaxation of the perineum through traction laterally applied. The general application of M.'s method will be best exemplified by noting the steps in case of a vertex presentation: The patient occupies the dorsal decubitus, the thighs so flexed, and knees so far apart as to thoroughly expose the perineum, but not to make traction on it. As soon as the head comes down on the peritoneum, the operator sitting to the woman's right, grasps the perineum on the right with his thumb and on the left with the remaining fingers, and endeavors to relax it from side to side. As soon as the presenting part appears at the vulva and distends the frenulum, the left hand is passed over the woman's right thigh, and with its ulnar border applied against the mons Veneris, the thumb grasps the right labium, and the middle finger the left, and by pulling these together they are relaxed. The head is slowly thus allowed to expand the vulva, and make its exit. Whilst the left hand now attends to the head, the right still watches over the perineum till the shoulders are born. The attempt is made to deliver the shoulders during the pain-interval, the head being pulled towards the symphysis, and the posterior shoulder first delivered. Although the hand is the best instrument for relaxing the perineum, yet there are cases where an instrument subserves the purpose better. And so M. has had constructed an instrument which he calls the *perineal relaxor*, and has used it effectually in a few cases.

The above described method has been to put to practical test in over 110 cases without the least perineal rupture, and M. hopes that, through its general use, episiotomy may be less frequently resorted to.

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ORIGINAL COMMUNICATIONS.

IS DISEASE OF THE UTERINE APPENDAGES AS FREQUENT
AS IT HAS BEEN REPRESENTED?¹

BY

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It may appear presumptuous for one whose experience has been as limited as mine to venture upon generalizations which are hardly legitimate, save as they are supported by many more years of study and observation than I can show. This presumption will appear the greater in view of the difficult subject upon the border of which I shall only hope to touch. Some indulgence may be granted by my hearers when they are assured that the title of this paper does not imply so much an expression of defiant skepticism as it does a mild negation.

It would be extremely interesting, did the time permit, to trace the growth of ovarian pathology from its beginning to the present time. The history would consist of a curious mass of facts and theories, so intermingled that it would not always be easy to tell where the facts ended and the theories began. That there has been no lack of writers in this department will be evident to any one who will glance at the twenty-five pages

¹ Read before the New York Academy of Medicine. April 1st, 1886.

of references in the last edition of Olshausen's monograph. But, on carefully sifting out this mass of material, it is equally evident that the number of original investigators has been small, and that in most of the standard works upon diseases of the ovaries, the sections on pathology have been copied from the same sources, nor have the authors always been careful to consult the latest authority. While the normal structure of the ovaries was early studied in the most careful manner, the crude speculations with regard to their morbid anatomy were as ingenious as they were erroneous. Although the origin and growth of ovarian cysts have been made the subject of valuable researches, the chapter on "oöphoritis" and "peri-oöphoritis" still remains one of the most unsatisfactory in text-books on gynecology, because the reader feels that, although authors may appear to be satisfied with the orthodox description of inflammation and its sequelæ as applied to the ovary, the whole story has not yet been told, either pathologically or clinically.

The phenomenal interest in diseases of the uterine appendages, which was awakened in this country but a few years since, is increasing every year and bids fair to continue; at least, it will not be the fault of our surgeons if it dies out. So strongly has the tide set in one direction that it is impossible to predict when it will turn. Agnosticism in regard to ovarian and tubal pathology is viewed with small favor at the present day. It is curious to note the habit of *a priori* reasoning into which men have fallen. A peculiar feature in the growth (if it really is *growth*) of abdominal surgery among us is that it owes its impetus to the surgeons rather than to the pathologists. The latter gentlemen have certainly had abundant opportunities of studying normal and diseased appendages of late, yet they have not manifested much enthusiasm in favor of their removal. The aid of the microscope is invoked only incidentally by the laparotomist. A piece of a tumor is examined by the pathologist who pronounces it to be malignant, whereupon the surgeon extirpates it; a mass of tissue removed from the uterine cavity presents the microscopical appearances of sarcoma—the gynecologist determines upon a radical operation. These are the natural sequences. But the same gynecologist will remove the ovaries and tubes, and will afterward call upon the pathologist to justify the wisdom of the operation, which, to tell the truth, it is often extremely difficult to do. But, to return to the original ques-

tion, which was a pathological, and not a surgical one—is disease of the uterine appendages as common as would be inferred from the teachings of the laparotomists? An endeavor to find a satisfactory reply to this question may cast us into a state of doubt, but even this will be better than the unquestioning belief which appears to be so general.

“What,” we may properly ask, “is a normal ovary?” It was easy enough to find a definition before the diagnoses of “chronic oöphoritis,” “cystic degeneration,” and the like, became so common, that the existence of a strictly normal organ (except in the lower animals) has come to be somewhat problematical. Waldeyer’s classical monograph, with its oft-copied drawings, would seem to be the best answer to any doubts on this subject, yet how rarely does one succeed in obtaining such typical sections of the human ovary as those which are figured in the books! The stroma is full of surprises for the microscopist, appearances of which he can find no description, possibilities for original work that have not yet been exhausted. For an observer to jump at the conclusion that a variation in the usual structure of the organ is pathological because it is new to him, would be as illogical as it would be to assume that there remain no more unrevealed facts in medicine because so many have already been discovered. It should be remembered that within the ovary there is ceaseless activity, changes as subtle and eluding as the vital principle itself. Ovisacs, each containing the promise of a new life, are constantly pushing their way, like the coral workers in the ocean depths, up to the surface, where (like them too) they die, leaving behind them their empty dwellings. From infancy to age these mysterious transformations go on—none the less mysterious because we profess to have such a familiarity with them. What wonder, then, that the minute structure of the gland is not constant, either in different ovaries, or in different portions of the same ovary!

The Graafian vesicles themselves, which are such familiar objects to the student of histology, are subject to frequent metamorphoses, while their origin and final degeneration are still a matter of dispute. Under these circumstances, how difficult is it to affirm where the normal ends and the pathological begins! Cirrhosis of the ovary is ordinarily defined as an hypertrophy of the fibrous tissue, but this same condition may be present after the menopause and yet fall within the limits of the ordi-

nary senile degeneration. Nothing is more common than to hear that an ovary was removed because it was "cystic," yet no one has defined the exact size to which an ovisac must attain before it ceases to be a vesicle, and becomes a cyst. I have found a perfect ovum within a vesicle as large as a marble. There was no reason to doubt that this ovum would have been capable of impregnation, yet the ovary was removed on the ground that it was functionally useless! This is an assumption of prescience on the part of the surgeon that is not warranted by the facts. If it is practically impossible for the microscopist to positively settle such questions, how hardly can the surgeon distinguish offhand the delicate shades of difference between health and disease by a hasty glance at the exterior of an ovary as he holds it in his fingers at the operating-table, and determines, without a moment's hesitation, upon its removal! We are unquestionably allowing our ideas on ovarian pathology to be tinged with the enthusiasm of the surgeon, instead of with the cold, calculating spirit of the morbid anatomist. We are losing sight of the fact that the ovary which we ordinarily encounter is not the typical ovary of the text-books, but that it is not on this account to be condemned as an organ which we should "pluck out and cast from us."

If the question "What is a normal ovary?" does not admit of a satisfactory answer, because, although apparently not strictly normal, the organ may be functionally useful, and conversely, though outwardly normal, it may present appearances under the microscope which border closely on the pathological, we may meet with better success by inquiring to what extent the structure of the organ may deviate from the typical without being regarded as actually diseased. Let us first follow the criteria of the laparotomist, who judges entirely by the "outward appearing." A considerable increase (or decrease) in the size of the ovary, thickening of the cortex and stroma, the presence of several cysts on its exterior—these are the common results which are alleged at the operating-table in justification of its removal. Let us examine these in detail.

The ovary is usually described as almond-shaped, or, more scientifically, as a flattened ovoid. It may, however, be spherical, oblong, fusiform, discoid, and yet be perfectly normal. I am convinced that under the influence of congestion the organ may become temporarily enlarged, in fact, I have re-

marked this phenomenon not only at the operating-table, but in the dead-house, in the case of a female who had died during menstruation. On section of such an ovary an intense hyperemia of the vessels will be noticed, accompanied by a general edema of the stroma. An inherent argument in favor of the possibility of such an enlargement rests, as in the case of the spleen, in the considerable amount of smooth muscle within the stroma. The practical deduction is this, that congestion and moderate enlargement of an ovary when observed at the operating-table do not necessarily imply disease or indicate oöphorectomy, especially when there is evidently a general engorgement of the pelvic vessels, such as may result from cardiac or peripheral obstruction, or even during the administration of ether.

If the ovary may be increased in size without being necessarily diseased, so, too, a decided diminution does not positively indicate disease; it may be merely an indication of senile atrophy. The ovary is not stationary; it rapidly increases in volume towards puberty, doubles its size during pregnancy, never returning to its original dimensions after delivery, and lastly, in the "second childhood," it shrinks into scarred and distorted insignificance. The exterior of the gland furnishes a striking index of its life-history. Its surface, smooth and symmetrical at maturity, becomes toward the end of sexual activity seamed and scarred, like the veteran of an hundred battles, while its color fades from the pinkish tinge of youth into the dead, expressionless hue of age. The physiological changes are so varied that it is readily conceivable that some of these may, on superficial inspection, be regarded as pathological.

Reference has been made to the common habit among laparotomists of judging of the presence of ovarian disease by the appearance of the cortex. Let me reiterate the statement that such thickening is perfectly normal in the senile organ, or even after frequent ovulation, and, moreover, that localized fibrous thickenings frequently exist in the cortex of an ovary which is in full functional activity and in patients who have exhibited during life no symptoms of ovarian disease. There can hardly be any considerable amount of pathological thickening as long as the Graafian vesicles are able to reach the surface and to discharge their contents in the normal way, leaving behind them perfectly-developed *corpora lutea*. If lesser

degrees of fibroid degeneration of the cortical zone cannot be detected by simple inspection, still less can the presence of localized cirrhosis in the depths of the stroma be established merely from a feeling of increased resistance on holding the organ between the fingers.

But, of all the excuses urged in justification of oöphorectomy, that of "cystic degeneration" is the one most frequently heard. Time and again have I seen passed around in societies ovaries on the surface of which were three or four vesicles not larger than small peas, and rarely have I heard this diagnosis of "cystic degeneration" called in question. Quite as often you will observe at the operating-table, after the removal of a cystoma, the opposite ovary examined for a few seconds and promptly removed, for fear that the cysts on its surface might one day develop into a tumor. Now, without venturing to dwell upon such a disputed point, I would only call attention to the fact that if all of these so-called "cystic ovaries" are to be viewed with suspicion as the forerunners of possible cystomata, there are few women who can be regarded as positively out of danger.

But you will naturally ask, by what criterion shall we judge of the presence of true cystic degeneration, or follicular ovaritis? I quote a definition from a text-book of gynecology selected at random: "In the follicular form, the ovary is not much enlarged; but we find . . . the peripheral follicles increased in size, their contents turbid or purulent, the cells of the *membrana granulosa* and contents of the ovum in a state of cloudy swelling."¹ Now, in my experience, Olshausen's description of "hydrops folliculorum" is more correct, viz.: "In those cases in which no cyst has attained to any considerable size, and, therefore, the entire ovary is only slightly enlarged, the larger cysts (more or less numerous) project partly above the surface of the organ, while the minute ones may be completely buried in the stroma. When the cysts are punctured, a clear, thin, serous fluid generally escapes, seldom a brownish or sanguineous one. On section the wall appears as a thin, light-grayish, rather transparent membrane; . . . this is only the inner cellular portion of the wall of a Graafian body. . . . The stroma of the ovary in these cases is intact, and *most of the vesicles also are entirely normal.*"²

¹ Hart and Barbour, "Manual of Gynecology," 2d ed., p. 183.

² Olshausen, "Die Krankheiten der Ovarien." Stuttgart, 1886, p. 47 et seq.

The writer concludes the paragraph with the comment, "... the ordinary cases of 'hydrops folliculorum' seldom acquire any importance clinically, because these changes occasion no symptoms, and the enlargement of the ovaries can rarely be detected, etc." This modest statement, regarding the difficulty of diagnosis, is in marked contrast with the confident tone of those gynecologists who claim that they can distinguish small cysts on the surface of the ovary when that organ is touched through the vaginal fornix.¹ A prominent gynecologist of this city states that he always refuses to operate "unless he can plainly make out, by bimanual manipulation, that the ovaries are enlarged by cystic degeneration." He must have frequent opportunities to practise such self-denial.²

In contrast with the ovaries above described are those which are the seat of true cystic degeneration. To these the German writer already quoted refers in the following words: "Far more rarely the ovary, without forming a large cyst, becomes enlarged to a more considerable extent, by reason of the cystic degeneration of a large number of vesicles. In such cases the stroma gradually disappears, and the enlarged organ then consists almost entirely of numerous contiguous loculi, united by a small amount of connective tissue, etc."³ From the context it is evident that this condition is not regarded as a common one. To my mind, the question has been answered as satisfactorily as it is possible to answer it with our imperfect knowledge of ovarian physiology and pathology. The practical deduction is sufficiently evident. Given an ovary slightly above the usual size, on the surface of which are not more than half a dozen transparent vesicles as large as peas, while the presence of normal *corpora lutea* indicate that the gland is functionally active—we are not justified in inferring that this ovary is the seat of extensive cystic degeneration, that it will develop into a cystoma, and that consequently it should be removed, without regard to the presence of other clear indications.

Having considered the subject from the surgical standpoint,

¹ Comp. Dr. B. M. Emmet, "On the Importance of the Diagnosis of Cystic Disease of the Ovary." N. Y. Med. Jour., Feb. 28th, 1885, p. 244.

² See paper by Dr. W. Gill Wylie on Tait's operation, read at the recent meeting of the N. Y. State Med. Society. AM. JOUR. OBSTET., March, 1886.

³ Op. cit., p. 48.

let us now go a step further and study the microscopical evidences of health and disease.

We must certainly be familiar with the normal histology of the ovary before we can recognize any slight deviations from it. This is by no means an easy task. From the first beginnings of the gland in the fetus until its death in life at the menopause, there is a constant succession of changes within its interior, the complicated character of which is well known. The myriads of tiny vesicles that fill the stroma of the fetal ovary and vanish, just how or whither no one knows, the degeneration of ovisacs which have not been able to reach the periphery, the arrested development of others, and finally the progression of the perfect ones towards the surface, their maturation, rupture, and the formation of *corpora lutea*—all these are sufficiently familiar. When we remember also the various tissues (fibrous, elastic, and muscular) which enter into the composition of the stroma, its rich vascular supply and intricate nerve-plexuses, which are so intimately connected with the vessels and nerves of the broad ligaments, we begin to realize the delicacy of the organ, and how readily the balance between the normal and pathological may be disturbed, especially under the influence of the monthly engorgement.

The circumscribed ectasiæ of the blood and lymph vessels, the minute collections of blood-pigment, the scattered leucocytes—these all represent localized engorgements, minor abnormalities. The so-called “interstitial cells,” “corpora fibrosa,” and other obscure formations, are often mistaken for objects of serious import. Reference has been made to the fibrous degeneration and atrophy of old age. It is well to bear in mind this physiological change, else we might easily make the diagnosis of cirrhosis from the excess of fibrous elements and the paucity of the Graafian bodies. On the other hand, the presence of cirrhosis is not to be inferred because we discover a few spots of fibroid degeneration in an otherwise healthy ovary, containing normal vesicles. It is not enough to examine one or two specimens; a large number of sections should be cut from different parts of the ovary, and should be compared with one another. A few suspicious appearances are not enough to warrant doubts as to the integrity of the organ. The Graafian vesicle is the object for which the ovary exists; to secure its proper nourishment, maturation and discharge is the one office of the gland. If, then,

on examination of a section a fair number of vesicles are seen, containing perfect ova, and if it is evident that the vesicles are able to make their way towards the periphery, and are not imprisoned in the midst of the stroma (as frequently happens when the latter has undergone extensive cirrhotic changes), then we may safely assume that, if the disease is present, it is not capable of detection by the microscope. Now, it is precisely these unimportant variations from the normal to which I have reference in this paper, and which I do not regard as actual evidences of disease. The gross pathological changes are easily recognized, but concerning the significance of the lesser we are very much in the dark.

Hegar makes the following peculiar assertion: "There are unquestionably changes within the ovary, invisible, and not at all recognizable clinically, which may, however, occasion severe and protracted symptoms of disease, so that castration may be indicated even where anatomical changes are not demonstrable." Comment is unnecessary. Such doctrine may be reassuring to the indiscriminate operator, but to the more conservative it will savor not a little of barbarism.

Before leaving the subject of ovarian pathology, permit me to refer to a recent practical application of the very principle upon which I have been insisting, viz., that partial disease does not imply complete loss of function. No less distinguished an operator than Professor Schroeder, recognizing the fact that an organ ought not to be utterly condemned because it is partially morbid, is now practising with success the operation of excising the diseased portion of an ovary, and leaving as much of the gland as appears to be normal, the opposite edges of the cut surface being carefully approximated by means of fine sutures. Professor Schroeder's reasons for this novel procedure are most creditable to him. He aims at preserving, if possible, the function of ovulation, and not depriving a woman of a possible chance of becoming a mother. Theoretically this appears reasonable, but practically there is room for doubt as to its ultimate success. Whatever may be the criticisms urged against this operation as an operation (the number of cases is still too small to afford positive data), this conservative tendency in such a bold and successful surgeon furnishes us with food for reflection, in view of our wholesale ablation of ovaries which are only suspicious. It is a very gratifying concession on the part of a progres-

sive teacher who can certainly not be charged with ultra conservatism.

In criticising some of the popular views regarding tubal pathology, I expect to arouse opposition, but so much the better. Since the so-called Tait's operation was naturalized in this country only three years ago (as the result of an enthusiastic paper by Dr. Thomas, read before the Academy), a great number of specimens, misnamed "salpingitis," have been put in circulation, not to speak of numerous tubes to which has been appended the diagnosis "catarrhal salpingitis," since it was necessary to assume the presence of some pathological condition. No reasonable man can question the propriety of removing tubes that are distended with pus, since their presence exposes the woman to constant danger of peritonitis in case of their rupture. We can scarcely overrate our indebtedness to the great Birmingham surgeon for pointing out this fact; but, let us not be carried away by the magic of his words and example, so as to reject the evidence of our own eyes. Among the thousand cases of abdominal section which Mr. Tait published a year ago,¹ two hundred and one were recorded in his language as "cases of removal of appendages for inflammatory disease." In referring to the condition of the tubes as compared with that of the accompanying ovaries, he says: "From the large sausage-like tube, containing some ounces of pus, to the small occluded organ, glued to its cirrhotic ovary, the transitions are equally imperceptible, and the trouble as great in all of them. Sometimes on one side there is pus in the tube, whilst on the other side there is blood or serum. Sometimes the tube is most afflicted on one side, and on the other the gland is the seat of the disease. In future, I shall attempt no such distinctions, for they are illogical and, in many cases, impossible."

I should amend this last sentence so as to read, "it is illogical *not* to attempt distinctions." Another positive dictum of Mr. Tait's, as tersely stated by Dr. Thomas,² is that "in chronic ovarian disease the tubes are invariably involved, and in most cases it is the tubes which are chiefly at fault." I protest against the unquestioning acceptance of such sweeping statements as these. Assume, if you will, that the influence of the tubes upon menstruation (a question still *sub judice*, and likely to remain so for a long time) is such that these organs

¹ Med. Press and Circular, Jan. 28th, 1885.

² N. Y. Med. Journal, Jan. 13th, 1883.

must be removed simultaneously with the ovaries, in order to cause a complete cessation of the monthly flow, is it therefore necessary in every instance to claim that these tubes are diseased?

What constitutes disease in a tube? Of the obvious pathological conditions I need not speak. Nothing is plainer than a plain case of pyo- or hydro-salpinx (when you hold the specimen in your hand). What I wish to analyze in the most searching manner are the diagnoses "catarrhal salpingitis," "chronic catarrh," "beginning pyo-salpinx," "hypertrophy," "stenosis," "congestion," "enlargement," "dilatation," "edema," etc.—expressions which I have frequently heard in learned societies, where they passed without criticism. This multiplication of terms would seem to imply either that tubal disease is on the increase, or else that operators are becoming so acute that they can recognize the slightest deviations from the normal.

I shall not weary you by discussing each of these points in detail. Bear in mind that a healthy tube is capable of a distinct increase in size under the influence of vascular engorgement; that its blood-supply is exceedingly rich, and that its mucous lining is so folded as to present a surface of large extent as compared with the size of the tube. As seen during menstruation and at the operating-table, the congestion is frequently so extreme that the tubes appear of a deep purple hue. Slight hemorrhages from the mucous membrane have been noted. When rolled between the fingers they seem to be, and actually are, larger than they are after their removal from the body. If added to this supposed abnormality, the surgeon discovers a few adhesions attaching the fimbriated end of a tube to its ovary, and some small cysts on the surface of the latter, the indication is clear—it must come out!

"Catarrhal salpingitis" is a favorite expression. I have repeatedly sought for evidences of chronic catarrh of the tubal mucous membrane, but as yet have been unsuccessful. The acute form I have met with only in the bodies of women who had died from acute peritonitis, consequent upon the extension of acute purulent endometritis. The condition which I *have* found in cases in which the diagnosis of "catarrh of the tube" was made, I have been unable to distinguish from the normal, *i. e.*, moderate hyperemia of the mucous membrane, which was covered with a thin coating of mucus, showing under the micro-

scope but few cellular elements. On scraping the free surface, numbers of ciliated epithelial cells would be detached, the *cilia* being usually in motion. The absence of extensive cell-desquamation and the active motion of the cilia should negative at once the idea of inflammation.”¹

Neither is atrophy of the muscular coat of the tube as common as would be inferred by the statements of those who paint pathological pictures as they think they ought to be, rather than as they are. True hypertrophy is by no means common; I have only three or four specimens which show well-marked thickening of the fibro-muscular tissue without evidences of inflammation or any change in the diameter of the lumen. Kaltenbach has recently called attention to this condition, and Mundé has given to it the appropriate name, “pachysalpingitis.” Changes in the lumen of a tube, except as associated with pyo- and hydro-salpinx, are not common; we are apt to forget how minute is the uterine opening as compared with the fimbriated end. That a limited amount of peritonitis around the tubes, or an adhesion of their fimbriated extremities to the ovaries, necessarily implies disease is not true. Although the free movements of such tubes may be impaired, as long as the lumina are patent and the lining membrane healthy, there is no reason why they should not be able to discharge their functions.

As it is my purpose to give this discussion a purely practical turn, I shall not dwell upon the different varieties of salpingitis, or touch upon the question of gonorrheal infection. Having protested against the alleged frequency of lesser degrees of inflammation, it remains to inquire briefly as to the prevalence of distended tubes. The impression derived from a perusal of Bandl’s monograph is that pyo- and hydro-salpinx are rather common, and that hemato-salpinx is by no means rare. Judging from the published collections of cases, as well as from our own and foreign society reports, pyo-salpinx is the condition most often observed. Among the recent contributions to the statistics of Tait’s operation is a paper by Dr. Wylie, whose success entitles him to a careful hearing. He reports that of his thirty-seven cases, “more than one-third were well-marked cases of pyo-salpinx.” This is a larger proportion than usual, at least

¹ Comp. Bandl, “*Krankh. der Tuben*,” etc. Stuttgart, 1886, p. 8 et seq.

judging by the number of specimens which I examine in the course of a year.

It is hardly fair to criticise a man's diagnoses when we form our opinion of them entirely from a brief journal abstract, but I cannot resist the temptation to refer to a series of twenty-one specimens of uterine appendages mentioned in the *Liverpool Medico-Chirurgical Journal*, as having been exhibited by Dr. Imlach before a society. Of the twenty-one, eleven are recorded as examples of true pyo-salpinx, four (!) of hemato-salpinx, and four of hydro-salpinx. The accompanying ovaries are loosely described as "riddled with small cysts," "atrophied," "swollen," "soft and swollen," the subjects of "cystic degeneration," "chronic ovaritis," etc. Judging only from the imperfect notes of these cases, I must say that Dr. Imlach has been fortunate in his opportunities of studying tubal disease. Being somewhat interested in the subject, I have taken pains to examine every specimen of uterine appendages that has come within my reach during the past two years, and also of carefully reading the descriptions of such specimens as have been presented before various societies. There are no small number of such specimens removed in New York in the course of a year, both in hospital and in private practice, and a large proportion of these pass through my hands. I have had no such good fortune as the Liverpool surgeon, since I have found that undoubted pyo-salpinx existed in not more than one-fifth of the cases, hydro-salpinx still less frequently, while true hemato-salpinx I believe to be extremely rare, having never seen but one undoubted specimen. I am profoundly skeptical regarding any diagnosis of pyo-salpinx in which a collection of pus cannot be demonstrated; you would certainly reject a diagnosis of abscess in which this element was wanting. Yet such diagnoses, resting upon no sound anatomical basis, are constantly being made. No pus, no pyo-salpinx. I do not think that I am unreasonable if I insist upon this point.

No small temptation is offered to me to launch out upon a discussion of the symptoms and diagnosis of ovarian and tubal disease, especially as I should like to prove that the subject has been made altogether too simple. But you have already been surfeited with this theme, and I have doubtless provoked criticism enough for one evening. Permit me to make a slight digression before closing.

If the frequency of disease of the appendages has been exaggerated, it is impossible to avoid the conclusion that these organs have been removed more often than the circumstances have seemed to justify. I believe that in the future the pain now referred to the ovaries and tubes will, especially when it is *constant* and is not limited to the periods, be explained more often by the presence of localized peritonitis, as well as neuralgia pure and simple. That either of these conditions is necessarily eliminated by extirpating the appendages I do not believe. There are not a few women now attending the various clinics in New York who have had their ovaries and tubes removed, and yet who complain of precisely the same pains as before; in fact, I can recall cases in which, although the menstrual disturbance is wanting, the pain is more severe than it was before. The one criticism upon the work of American laparotomists is this—they do not follow up sufficiently long the cases which they report as cured. A patient is not cured because she recovers from an operation. The operation was performed for a certain definite purpose, generally for the relief of pain. The question (and it should be the *burning* question) is: "Has this pain been permanently relieved?" The man who can report twenty cases in which he knows that the patients are well, one, two, or six years after operation, is infinitely more of a benefactor than the surgeon who records a hundred so-called "successful" cases, the after-history of which has not been followed beyond the period of actual convalescence.

The sooner that surgeons learn to appreciate the fact that dysmenorrhea and pelvic pain are frequently due to peritonitis, and *not* to disease of the uterus or its appendages, the less will they be disappointed at the persistence of these symptoms after removal of the appendages. Even if localized peritonitis was not present at the time of the operation, it may result from the same and the patient may be left in a far worse condition than she was before. It is no unusual phenomenon to have a decided amelioration of the painful symptoms in cases in which it has been possible only to loosen the peritonitic adhesions around imprisoned appendages, without removing them. The organs remain the same, but the environment is changed. So careful an observer as Martin states that, in all of the cases of oöphoritis that have come under his observation, there had long been marked evidence of inflammation in the adjacent peritoneum, and he

adds emphatically: "*This appears to be the cause of an essential part of the troubles.*"

In conclusion, the following deductions may be regarded as legitimate:

1. Ovarian disease is *not* as common as it has been represented; the surgeons, and *not* the pathologists, being responsible for the prevalence of the contrary opinion.

2. Because an ovary is partially diseased, it does not follow either that its functions have been materially impaired, or that its removal is imperative.

3. The expressions "cirrhosis" and "cystic degeneration" commonly applied to the ovary are mischievous terms, which are too often used in justification of *unjustifiable* operations.

4. Actual disease of the tubes is far less frequent than is generally believed. Lesser degrees of inflammation, especially slight "catarrhal salpingitis," are seldom appreciable to the pathologist, still less to the surgeon.

5. Many of the symptoms ascribed to disease of the uterine appendages are really due to *localized peritonitis*, and will *not* be removed by a removal of the appendages.

6. The physiology of the ovaries and tubes is still imperfectly understood; their pathology must then remain *sub judice*, and operations for their removal, on the ground of limited disease alone, must be regarded as largely empirical. To which I would venture to add the prediction:

7. The present enthusiasm in this country in favor of Tait's operation will not endure, because it will eventually be discovered that the number of *permanent* cures is entirely out of proportion to the number of operations.

POSTURE DURING LABQR.

BY

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With four woodcuts.

EARLY in the course of my professional service, my attention was directed to the influence of posture upon the progress of labor.

The English text-books advised the left lateral decubitus. American teachers seemed to favor the dorsal position. A patient, whose other children had all been born upon the continent of Europe, sought the inclined position. Seeing these varieties in practice and precept, the question naturally arose, "Is it true, as many practitioners affirm, that all positions are equally favorable for safe and speedy delivery?" Within the past year, I have been aided and greatly interested in the study of this subject by reading Dr. George Engelmann's "Labor among Primitive People." As a summing up, Dr. Engelmann found that the reclining posture during labor is very rare, except among the more refined inhabitants of Europe and America, where it seems to have been adopted on account of the ease with which the body may be protected from sight by the bed-clothes. Does it not seem a little strange, if that is really the best position for the mother undergoing her ordeal, that the children of nature carefully avoid the decubitus? Is it true that civilized man knows better what is good for the human race than the Creator does Himself? After a careful study of the case, the writer must agree with the author above referred to, that "the thinking obstetrician will soon confirm the statement not infrequently made by the ignorant but observing savage, by negro and Indian, that the recumbent position retards labor and is inimical to easy, safe, and rapid delivery."¹

The chief duty of the accoucheur is not as an operator, but as a guardian. Until an abnormality presents itself, or danger threatens, he must be content to sit still and watch. When he does act, however, it should be to aid nature, not to operate in spite of nature. Frequently an obstetrician in his haste, or magnifying his importance and responsibilities, has applied instruments, much to the injury of the patients, when, with a change of position, Dame Nature would have conducted the case with safety to mother and child. Such an obstetrician would, of course, choose a position most convenient for his operations.

The books and professors generally agree that during the first stage of labor we should encourage the patient to sit up or walk around the room. In the American practice, however, the patient is generally kept in bed. The reasons given for this advice are, that it is less tiresome to the patient, and that the

¹ Opus cit.

first stage is thereby shortened. It is hard for the puerperal patient to lie quietly in the bed. It is tiresome. Whatever tires or worries tends to decrease the patient's strength. It is therefore evident to all that the patient should be encouraged to keep up as long as is consistent with safety.

Why the first stage of labor is shortened by the erect or semi-erect posture, few have stopped to inquire, and I do not remember to have seen any reason given. Partly from empiricism, and partly from observation, we all keep a patient who is threatened with an abortion quietly upon her back. Why, when we wish the uterus to discharge its burden, do we carefully use the same position? It seems to the writer that the explanation of the shortened first stage is fourfold.

First. If we adopt the reflex theory of uterine contraction, we can clearly see that, since in the erect position of the body gravity brings the head of the child more firmly upon the os, the uterine contractions will thereby be increased.

Secondly. Nature intends that the *liquor amnii* within its sac shall dilate the parturient canal.¹ It is almost always a misfortune if the bag is ruptured before it reaches the vulva.² Every observing midwife knows that the dilatation of the soft parts by the fetal head is more painful to the patient and more likely to be accompanied by ruptures. A physician has no right to rupture the membranes in order to shorten labor, unless either the mother or the child is in danger. Now, in the production of this bag of waters the fetal head acts as a ball valve. During a pain, the head is pressed down, and the bag of waters finds its least resistance in the cervical canal. With the cessation of the uterine contraction the head rises and allows more fluid to flow in towards the os. As the operation is repeated the bag of waters is increased, and the cervix is dilated by constant radial pressure, equal in all directions, though varying in degree from moment to moment, and not

¹ The Chicago Medical Journal and Examiner for March, 1885, contains an excellent article, by Dr. Henry T. Byford, upon "The Functions of the Membranes in Labor." The paper was read before the Chicago Gynecological Society, February 20th, 1885.

² In a discussion of this subject before the Kalamazoo Academy of Medicine, Dr. H. O. Hitchcock reported a case of placenta previa centralis, in which he carefully preserved the membranes, but detached the placenta, so that at one time the placenta and child were born. Both mother and child made a good recovery.

by the less regular axial pressure, unequal upon different portions of the circumference, as is the case when the membranes are ruptured. What is true of the cervix is also true of the entire parturient canal. It is very evident that, with the body in a horizontal position, on account of its low specific gravity compared with the amniotic fluid, the child's head does not rise from the os after a pain, so that the water does not so readily flow in front of the head, and it is not kept there so perfectly, and consequently the progress of the case must be slower.

Thirdly. Since the water does not flow so readily, the membranes are not sufficiently pressed down. According to the natural method, the membranes serve as a covering for the maternal parts to protect them from friction. If pressure is long kept up upon any one portion of the membranes (as it will be if the water does not flow in), a rupture will probably occur, and, as a result, the child's head must be the cervical dilator, and the child's body must rub upon the mother's parts. This resulting friction must, of necessity, tend to retard the dilatation, and also produce unnecessary local irritation and inflammation. The writer could not but think that an early change of position might have prevented the troublesome delay in the first three cases mentioned by Dr. Elliott Richardson in his recent article upon "Tardy First Stage of Labor," published in the *Journal of the American Medical Association* (Jan. 9th, 1886).

Fourthly. Since the first stage of labor is accomplished by uterine contractions alone, the mother simply uses up her strength when she tries to assist nature by voluntary muscular effort. If she is lying upon the bed, she has less to divert her attention, and is more inclined to assist each pain than she is while she is around the room. She therefore gets impatient over her slow progress, and her impatience is likely to result in irregular pains, rapidly recurring, exhausting the patient's strength, but producing no advancement.

While it is true that an erect or semi-erect posture of the body shortens the first stage of labor, its influence upon the second stage is fully as apparent. Take three cases, for example. The first I must give from memory, not having exact data by me.

CASE I.—Mrs. C. G., American, aged 38, rather short and quite fleshy. Pelvis large in proportion to her size. Had four children. Labors normal, but not especially rapid. At the time

of her fifth confinement she woke early in the morning with slight pains. She got up to urinate, and while sitting upon the chamber had another pain, with which a well-formed female child, weighing six pounds or more, came into the world of light. Since that the mother has had at least two other children, and in neither case was the labor very rapid.

CASE II.—Mrs. F. G., American, aged 26, good figure, but not very strong, woke up about 2:30 A.M. one April morning, with slight pains indicating the approach of her confinement. I was summoned as soon as possible, and arrived at the house, four miles from my residence, about four o'clock. I found that after a lady friend had been called in, and her husband had started to summon me, the patient got up and sat in a chair. After her bed had been prepared she still persisted in sitting up, because, as she said, she did not want to have the child before the doctor got there, but chiefly because in her other confinements the pains had lasted about six hours, and she wished to stay up as long as possible, thinking the chair less tiresome than the bed. Soon after she got into the chair the pains increased in force, and the child, a girl weighing five and a half pounds, was born at 3:30. She was then put to bed, and the after-birth came almost immediately. I could discover no rupture, and the patient recovered without any drawback.

CASE III.—Mrs. M., American, weighing about one hundred pounds, aged 25, was delivered of her second child, January 24th, 1886. When I reached the house at 2 A.M. I was informed that after two or three pains the membranes ruptured at 12:45. I found the patient reclining upon her right side. Upon examination I found the os widely dilated. Vertex presentation, third position. The head was pressing upon the symphysis. After each pain the head receded more than is usual. Not much progress being made, about 2:50 I inverted a common chair and put it upon the bed. Upon this I placed a good-sized pillow and told her to recline backwards against it, thus bringing the body to an inclination of about 40° (Fig. 1). Very soon I noticed a difference in the results of the pains. With each uterine contraction the head made progress, and though receding in the intervals of pain, it did not go back as far as before. At 3:30 a well-formed boy appeared, weighing about seven pounds. The patient said that the change in position was a great help. She did not suffer so much when propped up. Recovery rapid and without the slightest drawback. Her first labor took about six hours.

An erect posture during the first stage will shorten the second stage if it increases the size of the bag of waters. Clearly, if the parturient canal is well dilated, there will be less obstruction in the passage of the child through this canal. Moreover, as was hinted in the remarks on the first stage, nature intends the amniotic membrane to protect the mother's parts. If that is in

its place, the child's body is less likely to catch upon such tissues of the mother as may tend to retard labor. There is less friction between the head of the child and the inner surface of the amniotic membrane than between either the child's head or the outer surface of the membrane and the mother's parts. The inner surface of the membrane is firm and smooth, while the other structures are softer and not so smooth. It therefore follows that, with the amniotic membrane lining the parturient canal, the child will pass through more easily, and with less danger of producing ruptures in the maternal parts. Lastly, if an erect position during the first stage shortens that stage, the patient's strength is thereby saved, and she is better able to complete the second stage quickly and safely.



FIG. 1.

By the erect or inclined positions during the second stage we gain the assistance of gravity in the expulsion of the child. Since the uterus is most nearly erect when the body of the mother is inclined at an angle of 50° , we gain the greatest assistance from gravity in that posture. My explanation of the great recession in case III. is that the fundus of the womb was lower than its mouth. When the uterine contractions ceased, therefore, gravity took the fetus back to the fundus. By this means the muscle of the fundus gained little strength from rest, while the cervical fibres were not tired out, as nature intended.

The inclined position lends support to the perineum, aiding it to throw the child's head forward as soon as it passes the symphysis. In this position, therefore, a rupture of the perineum

would be less likely to occur. As soon as the child's head is born, to prevent undue flexion of the infant's body, or the retarding of labor by its pressure upon the bed, the mother should be immediately placed upon her back or side.

Without doubt, the left lateral decubitus is most advantageous for many of the obstetric operations, but the foregoing considerations show that it is hardly the best for natural expulsion. In that position, with the patient drawn to the right side of the bed, the physician can make examinations with his right hand, without being hindered by the patient's limbs. Since her back is turned, the patient will not see, and hence be made nervous by the preparations which are being made for her confinement. Opposed to the position we find that labor is hindered rather than aided by gravity. Moreover, the weight of the body tends to prevent the separation of the symphysis.

In the dorsal decubitus, the axis of the womb declines towards the os, thus aiding the formation of the bag of waters. On the other hand, the weight of the body tends to press the sacrum up, thus shortening the shortest diameter of the superior strait. In that position also the limbs of the patient are often in the way of obstetric operations.

In the inclined dorsal position, the weight of the body is upon the ischia, so that there is no limitation thereby of pelvic diameters. Gravity gives its greatest assistance in the formation of the bag of waters and in the natural birth of the child. The position is inconvenient for most obstetric operations.

Thinking that there is something further than has before been hinted at, to explain the difference of posture taken by uncivilized parturients, as compared with the more refined patients we are called upon to treat, I continued to study the positions taken, and came to the conclusion that the lumbar curve of the vertebral column is a prominent element in the conduct of labor. I notice that, in the pictures given of savage parturients and in the descriptions of the semi-civilized confinements, the natural lumbar curve is prominent. In the positions advised for very fat women in Italian publications of the fifteenth and sixteenth centuries, the lumbar curve is made as great as possible. In case III., above mentioned, more progress was made while in the inclined posture, when the patient pushed with her hands than when she pulled. Now, in the inclined position, pulling

tends to reverse the lumbar curve, and pushing has little effect upon it. The effect of the lumbar curve was also shown by

CASE IV.—Mrs. B., born in Holland. Four children. In the fifth confinement the membranes ruptured at 6:15 A.M., February 4th, 1882. I reached the house at eight o'clock. I found the os fairly dilated. Contractions regular. The patient was reclining

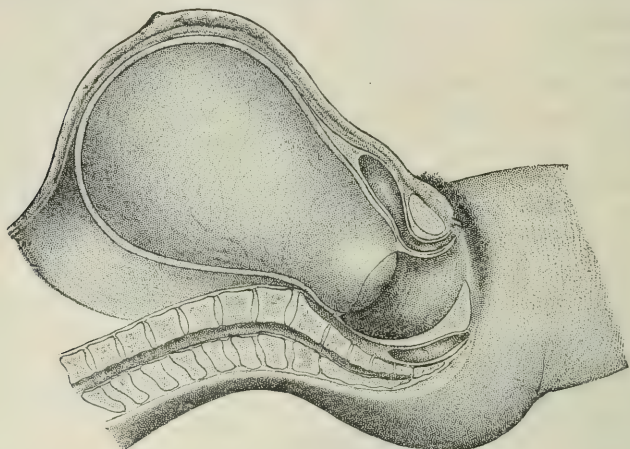


FIG. 2.

at an angle of 45° , but with the lumbar curve reversed. Progress was slow until at about 9:25. I removed some of the pillows from the head and shoulders of the patient, so that the lumbar curve

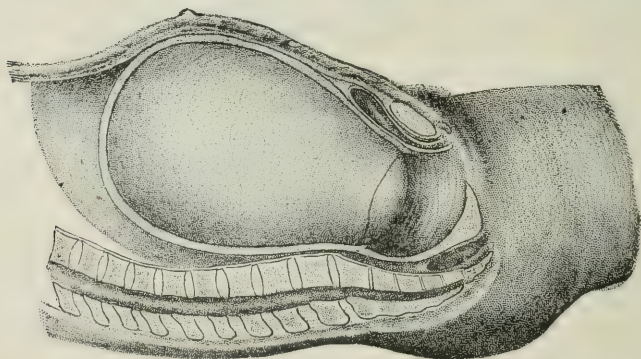


FIG. 3.

would be corrected. From that time the case progressed rapidly, and a nine-pound girl was born at 9:57.

These are only two of the many cases that might be mentioned to illustrate the influence of the lumbar curve.

A glance at Figure 2 shows that in the normal position the lumbar curve of the vertebral column throws the fundus uteri forward, so that the axis of the womb nearly coincides with that of the superior pelvic plane. In that position contractions of the abdominal wall crowd down upon the fundus, aiding in the expulsion of the child. When the lumbar curve is reversed (Fig. 3), or even obliterated, the fundus falls towards the spinal column, so that it forms an angle with that of the superior strait. Abdominal contractions, instead of aiding its expulsion, tend to increase the axial angle. As a result, the head presses against the symphysis pubis. This pressure retards labor, and tends to produce sloughing. Since in about seventy-

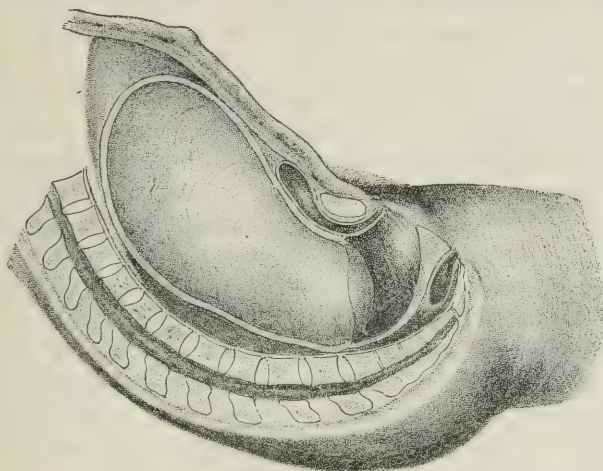


FIG. 4.

seven per cent of vertex presentations the occiput is toward the front, it will be seen that the reversed lumbar curve tends to produce face presentations, by causing the occiput to be caught upon the pubic bones.¹

As may be seen from Figure 4, when the lumbar curve is

¹ Since the above was written, the author has noticed in the American Journal of the Medical Sciences (April, 1886, p. 658) a review of an article by Küstner, published in the Zeitschrift für Geb. und Gyn., Heft. xi., p. 326. By an ingenious method, K. measured the angles made by the axis of the pregnant uterus, with the axis of the superior plane. He found that when the patient was erect the two axes generally coincided. In the supine position (upon a table), the fundus generally fell back, giving an average angle between the axes of 19° . In one case the angle was as great as 24° .

greatly reversed, it may throw the fundus uteri forward of the pelvic axis. In that position the head of the child is pressed firmly against the posterior wall of the pelvis, and the perineum must be extended to its utmost. We should naturally expect perineal ruptures, and a recto-vaginal fistula would not be strange. If I am not mistaken, one or more cases have been reported in which a rupture took place involving the posterior part of the perineum, the recto-vaginal septum, and the sphincter ani, but leaving intact the anterior portion of the perineum. The child was born through the abnormal canal. A glance at Figure 4 shows how this might easily occur, especially with a long perineum.

He may be mistaken, but it seems to the writer that the foregoing fully explains facts often noticed by accoucheurs, and well described by his friend, Dr. H. B. Osborne, in an unpublished discussion before the Kalamazoo Academy of Medicine. Dr. Osborne said: "We sometimes see a pregnant woman who walks erect with her shoulders thrown back, and abdomen very prominent, as though to say to the world 'I am pregnant.' When she comes to be confined and the physician makes an examination, he finds the vulva pointed a little backward. Such a parturient usually gets through her ordeal with comparatively little trouble. If ruptures occur, they are but slight.

"On the other hand we sometimes see a woman enceinte, who leans forward as she walks, as if to hide her condition. Often, as such a one lies upon her back, her vulva is found to be nearly horizontal, and her labor is likely to be slow, and attended with more or less ruptures."

In such cases the abnormal curve is not generally of so recent formation that the midwife can entirely correct the deformity. The trouble is chronic, and the cartilages and bones of the spinal column have accustomed themselves to it. It would be well, therefore, if every man should hesitate for a long time before inviting any girl, who does not walk erect, to marry him. Such a course would, in a forcible manner, cause women to correct their improper positions. It would tend to make them look carefully for the causes of the abnormal curves. Among the causes may be mentioned: Fashion, which sometimes dictates that her devotees shall wear a "Grecian bend." The extra clothing which the women of to-day fasten upon their buttocks, which causes them to lean forward to keep the centre of gravity where it should

be. The high-heeled French shoe, whose wearers instinctively lean forward to relax the anterior muscles of the lower extremities, and preserve their equilibrium. Walking while the body is too weak, especially at the monthly periods in young girls.

Among savage tribes, the parturient often aids herself by drawing herself up by means of a rope or stake. The advantages of this position are :

1. It relieves the pelvis of external pressure, allowing it the greatest possible chance of expansion.

2. The pelvis is allowed the greatest possible freedom of motion upon the vertebral column. The natural parturient, wherever found, is inclined to sway backwards and forwards. The vertex of the child rubs upon the mother's symphysis, and this swaying tends to aid the head in getting over the obstruction.

3. The anterior wall of the abdomen is made tense.

To sum up, then, we conclude that the dorsal decubitus now so common should be discouraged, because :

1st. It retards labor.

2d. It exhausts strength.

3d. It favors mal-positions.

4th. It tends to produce tears and sloughing.

5th. It tends to produce local inflammation.

6th. Since the labor is retarded, it increases the length of time that the child's head is compressed and so endangers its life.

THREADING NEEDLES FOR WIRE SUTURES.

BY

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Danville, Ind.

(With two woodcuts.)

REALIZING that the surgeon gladly welcomes any improvement in his art, however small, conducive to his convenience and his patients' welfare, I present the following method of threading needles, believing it to possess merits not found in any of those already in general use.

With a strand of braided silk, eight inches long, and as large as the eye of the needle to be used will easily carry, form a

small narrow loop, an inch or two from one end, supporting it with the thumb and index finger of the left hand, Fig. 1. With the needle, held in the right hand, transfix both branches of the loop, the shorter one first, as near its apex as possible. Having drawn the loop thus formed along the needle, very near to the eye, *thread* the needle with the *shorter* branch, drawing it tightly through. Now seizing the longer branch of the loop it is quickly carried *over* the head of the needle, and inverted upon itself in such manner as to show the shorter passing through the longer branch at two points very near to each other.

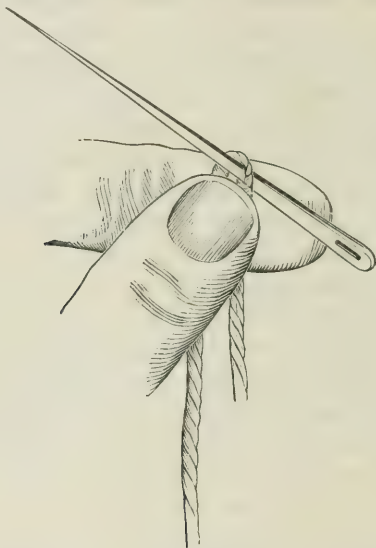


FIG. 1.

(The needle should be drawn as transfixing both limbs of the loop.)

If properly constructed, the distance between these points will not exceed the eighth of an inch. A *needle loop* is thus made which renders it impossible for the cord to be withdrawn from the eye without first parting.

The loop for the wire is now made by first moistening the longer branch and then perforating it about an inch from its free end with the needle, which being immediately withdrawn, leaves a circular opening in the cord through which the wire is passed and pressed down in the usual manner. By cutting the wire quite obliquely with sharp scissors a point will be made which facilitates its passage through the opening. Fig. 2 shows

the suture complete, except that the wire loop is not yet pressed down.

Constructed by this method we have a suture which, consisting of but a single strand of silk and wire, cannot change its form by slipping, and which, being at no point larger than the needle carrying it, we may feel assured will readily pass through tissues of great density, and safely follow the most tortuous channels.

The advantages of this method are obvious.

It is easy of formation. There are but two strands of silk at the eye of the needle instead of four as in all forms of "double threading." There are no useless strands nor loose ends to become entangled or slip, or otherwise create confusion. There

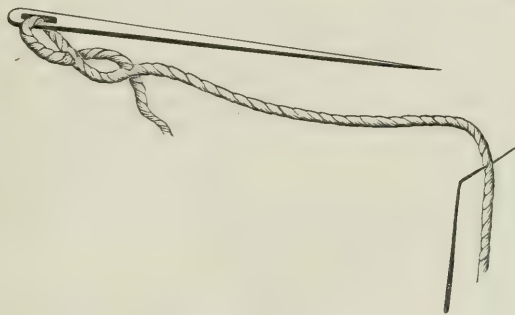


FIG. 2.

is "entire absence of the knot," or other unevenness. It cannot inflict greater injury upon the tissues than has the needle in its advance. With it, jerking the entire suture out upon the opposite side never need occur, and the aid of an assistant is not required to prevent this annoying accident. It possesses equal, if not greater strength with other methods, from the fact that the silk used may be twice as large and the force is applied in the direction of its long axis.

Could manufacturers of braided silk furnish "ready made" guides with a loop for *wire* smoothly and firmly braided in at one end, the other left free to be formed into a *needle* loop as above described, it would seem that nothing could be more complete.

EXCESSIVE VOMITING IN PREGNANCY.¹

BY

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NEARLY all women suffer, more or less, during pregnancy, from nausea and vomiting, but it is only in those cases where these symptoms are severe and persistent that medical aid is sought. The following is the most serious instance I have met with, and it is my purpose to make it the foundation for a few remarks on the general question.

In June, 1885, Mrs. M. called to see me on account of the nausea incident to her pregnancy. She was about six weeks advanced in her first pregnancy, and for two weeks had suffered almost incessantly from nausea and vomiting. Her history is about as follows: She was 25 years of age, and had been married only a few months. Her health had never been good, and on several occasions I had removed polypi from the nasal fossæ. Several sisters had died of consumption, and her appearance indicated that she was strongly disposed to that disease. Her physical development was not good, and on her first visit it was evident that she was decidedly anemic. The tongue was pale and flabby, and the bowels constipated.

Compound licorice powder was ordered to regulate the bowels, and a powder containing bismuth, soda, and pepsin was prescribed for the nausea. She called again in a few days, still unrelieved of the sick stomach, which was present nearly all the time. Oxalate of cerium was next tried; then the effervescing nitrate of cerium, which was promptly vomited. Columbo with soda availed nothing. Ingluvin had no beneficial effect. Lime-water and milk proved useless. In fact, nearly every remedy which had been of service in other cases was tried, but to no purpose. Vomiting became more frequent, and nausea constant. Finally, the lady was so much reduced in strength as to be unable to visit my office, which was only a short distance from her home.

I now determined to confine her to the bed, and pursue the plan recommended by Dr. Busey some years ago, and which had served me well in an aggravated case of the same character, viz., the administration of nutritive enemata containing bromide of potassium and laudanum, and give nothing by the mouth whatever. After using this method a few days without apparent benefit, diarrhea supervened, making it necessary for me to suspend the enemata and use means to check the action of the

¹ Read before the Obstetrical and Gynecological Society of Washington, December 4th, 1885.

bowels. On resuming the injections, on several occasions, the diarrhea returned, and this treatment had to be finally abandoned.

All this time, the patient was not only losing strength, but she was rapidly emaciating. Leucorrhea now appeared, and was profuse in quantity. Digital examination revealed the uterus to be in a condition of anteversion and antelexion, but not more so than I had observed in other cases, where the distressing symptoms present in this case were lacking.

Specular examination demonstrated the presence of intense congestion of the vagina and cervix uteri, but there were no erosions of the latter to be seen, nor was the uterus tender to the touch. Hot-water injections were directed to be used, but no efforts were made at that time to replace the uterus, for the reason above given, that is, the displacement did not appear to be great enough to demand such a course. Attention was now more particularly directed to the regulation of the diet, and to keeping the bowels from becoming constipated. Champagne was given for the vomiting, but could not be retained. It is unnecessary to enumerate the remedies which were prescribed, nor the articles of diet which the lady received, as all proved unavailing. Not as much as a teaspoonful of nourishment or medicine could be retained, and excessive tenderness of the epigastrium resulted from the frequent acts of vomiting. The breath became offensive, and the tongue dry and brown, while the whole body seemed to exhale a cadaveric odor. Emaciation kept pace with the other symptoms, and I am sure it equalled that found in the most advanced cases of phthisis and cancer which had fallen under my observation. The arm could be easily encircled by the finger and thumb, the quadriceps extensor cruris muscle was reduced to a mere ribbon, and the abdominal walls were retracted until there seemed to be nothing separating the integument from the bodies of the vertebræ, while the ribs and iliac crests and spinous processes stood out so prominently as to justify the appellation "living skeleton" when applied to the patient. So great was the loss of strength that when it was desired to have the limbs moved, attendants had to perform the service. In addition to all this, the mind began to wander.

I had exhausted all my remedies, the patient had nearly exhausted her vitality. It was hoped that, as pregnancy advanced, the vomiting would subside, and consequently my aim had been to sustain the patient until nature should come to her aid. But in this we were disappointed, and I told the family nothing could be done but induce abortion. My repugnance to pursuing that course was an additional reason for persevering in the use of remedial agents for so long a time. The patient had been under treatment six weeks, and had grown steadily worse. Consent having been given to the treatment proposed, on August 2d I introduced a bougie into the uterus without difficulty, the displacement previously referred to having greatly lessened, and after about eight hours I found that the uterus had been excited to action, and the os sufficiently open to admit the index-finger.

To sustain the woman while the ovum was being removed, and at the same time prevent unnecessary loss of blood, a full dose of ergot and brandy was administered, after which I was enabled to remove the contents of the uterus with my finger with facility in a very short time. The patient was at this time about three months advanced in gestation.

The relief to the symptoms may be said to have been instantaneous, so much so that it became necessary to restrict the quantity of food to be taken. This was of the most nourishing kind, and the lady soon began to regain strength, although for some little while the mental aberration would show itself. She was soon able to sit up, but could not walk on account of the extreme muscular wasting. Carriage riding was also indulged in, and the prospect of speedy convalescence was excellent. In September the patient commenced to cough, and examination of the lungs showed that the hereditary predisposition was asserting its power, and in November, three and a half months after the termination of the pregnancy, the patient breathed her last.

In reviewing the history of this case, I can see but a single point in which there is reason to believe that an error was committed, and that is the delay in inducing abortion. Still, my course was intended to be conservative, and the fact that, in many seemingly hopeless cases, change for the better suddenly supervenes, is my reason for the belief that the course pursued was correct. The rapidity with which symptoms of pulmonary disease developed and advanced to a fatal issue is another instance of the futility of advising marriage as a means of warding off consumption in those who are predisposed thereto by heredity.

Having giving the notes of the above in detail, a few remarks on the nausea and vomiting of pregnancy may now be made. These symptoms are of such general occurrence that they must be said to be purposive. Hence it will be well to see what that purpose is.

Purpose.—Some of the older authorities consider the vomiting of pregnant women not only to be serviceable by evacuating the superfluous nourishment and morbid secretions, but also by the straining exciting a more active condition of the uterus and its circulation (Smellie, Denman), and by bringing the stomach into a better state. Bard says, "Sickness and vomiting so generally occur during the first months, as peculiarly to excite a suspicion that they are somehow designed by nature to contribute to the woman's safety; they likewise appear to be connected with that of the child; at least by their presence and

degree to mark its vigor and lively state, and by their sudden disappearance to indicate its death." Bedford was fully convinced of the utility of the nausea and vomiting. He writes: "I do not think there is any fact, as a general fact, better established than that pregnant females, who escape nausea and vomiting during gestation, *are exceedingly apt to miscarry.*" He explains this fact by referring to the excessive congestion of the uterus after conception has taken place, and believes if it were not for the muscular relaxation which attends nausea and vomiting increasing the action of the skin, whereby the uterine congestion is diminished, abortion would occur more frequently. So well is he satisfied of the importance and necessity of these symptoms that, when they are not present, he administers ipecac to produce them, and cites a case proving the efficacy of the treatment. According to Leishman, "Midwives have an aphorism that 'a sick pregnancy is a safe one.'" And again he says: "'It is,' as Dewees says, 'a remark as familiar as it is well grounded, that *very sick women rarely miscarry.*'" Playfair observes that "it is an old observation that when the sickness of pregnancy is entirely absent, other, and generally more distressing, sympathetic derangements are often met with, such as a tendency to syncope. Dr. Radford has laid especial stress on this point, and maintains that under such circumstances women are peculiarly apt to miscarry."

Causes of Nausea and Vomiting.—Many causes have been assigned for the production of the affections mentioned, and it may not be uninteresting to mention some of the diverse views which have been entertained. Smellie writes: "Perhaps this complaint is chiefly occasioned by a fulness of the vessels of the uterus owing to the obstructed catamenia, the whole quantity of which cannot as yet be employed in the nutrition of the embryo; over and above this cause, it has been supposed that the uterus being stretched by the increase of the ovum, a tension of the part ensues affecting the nerves of that viscus, especially those that arise from the *sympathetici maximi*, and communicate with the plexus at the mouth of the stomach." Denman believes the "morning-sickness" to be caused by the change of position on arising in the morning from horizontal to perpendicular. Cazeaux says: "It is a very remarkable fact (if we may rely on the testimony of numerous mothers) that the sex of the child is not wholly irrelevant to the production of this symptom, and,

however ridiculous this may appear at first sight, I have heard it repeated by so many women, that I cannot refrain from believing that it, like most other popular prejudices, has some foundation." In another place he says: "It is very difficult to explain these digestive disturbances; they evidently seem due to the sympathetic action of the uterus on the organs of digestion. But what is that action? In some females, it has been said, the stomach is more predisposed to receive such sympathies; that in the great majority the primary cause is located in the uterus, which is distended with much difficulty, and likewise suffers from this distention, whether at the beginning or the end of gestation, especially when the enlargement is rendered greater by the presence of twins, or of a large quantity of waters; but, in such cases, would it not rather be owing to the pressure of the uterus on the stomach?" He gives another explanation as follows: "Dance reports two cases, from which he feels authorized to conclude that these vomitings are often an evidence of a morbid activity in the uterine system, of an inflammation of the membranes." And then comes Gooch who observes that "some women are sick every time they copulate, so intimate is the sympathy between the stomach and the sexual organs. These are cases of irritation of the stomach, induced by the particular state of the uterus." Dr. King, in his "Manual," refers to sexual excitement as a cause of vomiting in some women. Meigs believes vomiting to be due to the sympathy felt by the stomach and other organs for the developing uterus, and the reason why so many women suffer from morning sickness alone is that the preoccupation and fatigues of the day interrupt the sympathy, which returns again after a night of rest. According to Tyler Smith, vomiting "is probably caused by the distention and evolution of the dense structure of the uterus after impregnation, or by the pelvic irritation caused by the gravid uterus before it emerges from the brim, or from both these causes." Playfair mentions Bennet's belief that, when at all severe, it is always associated with congestion and inflammation of the cervix uteri. He discredits Graily Hewitt's assertion that it depends entirely on flexion of the uterus—producing irritation of the uterine nerves at the seat of flexion, and consequent sympathetic vomiting. Continuing, he says: "It is difficult to believe that nearly every pregnant woman has a flexed uterus. The generally received explanation is, probably,

the correct one, viz.: that nausea, as well as other forms of sympathetic disturbance, depends on the stretching of the uterine fibres by the growing ovum, and consequent irritation of the uterine nerves." Concerning the views of Hewitt, it seems to me that the testimony of the eminent gentlemen who participated in the discussion in the Obstetrical Society of London, in November and December of last year, on Dr. Hewitt's paper ought to convince any one of the unsoundness of that writer's opinions on the question involved. Especial attention is called to the remark of Braxton Hicks, that, "since Dr. Graily Hewitt's first paper, he had examined all cases carefully, and he had never found any displacement or other local disturbance requiring mechanical treatment."

Prognosis in Grave Cases.—After giving the symptoms in grave cases, Playfair speaks as follows: "Symptoms of such gravity are fortunately of extreme rarity, but they do from time to time arise and cause much anxiety. Gueniot collected 118 cases of this form of the disease, out of which 46 died; and out of the 72 that recovered, in 42 the symptoms only ceased when abortion, either spontaneous or artificially produced, had occurred." "Paul Dubois has stated that he met with twenty fatal cases in thirteen years." (Tyler Smith.)

Symptoms.—I know of no more concise and correct statement of the symptoms attending cases of "excessive vomiting" than the following, which is taken from King's Manual: "Symptoms. Exaggeration of ordinary 'morning sickness.' Vomiting increased in severity, duration and frequency. Ejected matters contain, successively, food, clear mucus, and regurgitated bile. May be severe pain in stomach from continued retching. Apt to continue weeks or even months in spite of treatment; then follow: constitutional symptoms, fever, emaciation, restlessness, exhaustion, and later, fetid breath; dry, brown tongue, feeble and frequent pulse, night-sweats and insomnia. Still later, in the worst cases, vomiting stops (from exhaustion of reflex power of spinal cord), and nervous symptoms appear, viz.: delirium, stupor, coma, and rarely, *very* rarely, death."

Treatment.—I cannot devote much space to the treatment of mild cases of nausea and vomiting of pregnancy. In fact, if attention is paid to keeping open the bowels, and regulating the diet so that the stomach may not be taxed to digest unsuit-

able food, nearly all will be accomplished that this class of cases calls for. If disease of other viscera exist, especially the kidneys, remedies should be directed to them. But what is to be done in cases such as that which has served to base this paper on? I have indicated what I believe to be the best plan, that is, give nutrient enemata and thus rest the stomach. Failing in that, I know of but one certain means of controlling the vomiting, and that is by arresting the pregnancy through the induction of abortion. However repulsive it may be to us, in the interest of the mother this must be done. I know that seemingly desperate cases recover without resort being had to such desperate means, but my belief is that some who are permitted to complete gestation, under such circumstances, do so at the risk of bringing into play latent diseases, which, while able to resist the encroachments of ordinary attacks of nausea and vomiting, are not competent to contend against the fearful odds incident to such attacks as befell my patient. It is true that every means must be exhausted, short of imperilling the life of the woman, before inducing miscarriage. Tyler Smith says he has seen a patient suffering from incessant vomiting, in a state of great anæmia, with œdema of the lower extremities from pure debility, kept up in the latter part of pregnancy by daily inunctions of cod-liver oil over the abdominal surface. He continues: "It has happened to me to have been twice consulted within a recent period in cases in which the induction of premature labor artificially was so long delayed that the patient died before abortion could be induced." This fact he mentions as a warning against too long delaying the treatment indicated. Nearly all of our leading authorities agree that the induction of abortion, in extreme cases, is not only justifiable, but demanded. We find the following in Leishman: "The conclusion at which Cazeaux and others have arrived is, that under no circumstances are we justified in inducing premature labor for the relief of the vomiting of pregnancy; but to this we cannot consent, although we admit that the cases which would warrant the operation are of extremely rare occurrence."

Many other authorities might be quoted to sustain the operation above recommended, but at the risk of being tedious I will cite one more whose conservatism and conscientiousness are the best guarantees of his sincerity. Reference is made to Gunning S. Bedford. He wrote as follows: "The two chief arguments

employed by those who oppose the induction of premature delivery for the cause under consideration are: 1. That, in some instances, pregnant women, who have been supposed to have been almost in a moribund state from the exhaustion of vomiting, have recovered and brought forth living children. 2. That the physician is not justified in the performance of an operation which necessarily leads to the death of the child. I do not perceive much force in this reasoning except in the abstract; and, when taken in connection with all the circumstances presented by each case, it loses, in my view, all strength as a guide in practice. To the first argument, therefore, I reply—that if a woman, apparently moribund from long-continued and excessive vomiting, should recover and reach the full period of her gestation, it is a rare exception to a general rule, and, as an exception, utterly worthless as a precedent. Again, it is well known that women have died from the effects of this disturbance, who would in all probability have survived if premature delivery had been resorted to. The second argument, it seems to me, is readily disposed of. The chances of saving the life of the mother, in these cases, are very much enhanced, and without the operation, should the mother die, the life of the child is also sacrificed. But, I repeat, the whole question resolves itself into one of expediency, the word expediency in this case meaning the interpretation which science, conscience, and a high morality may place on the necessity for action.”

A PRACTICAL SELF-RETAINING SIMS' SPECULUM.¹

BY

CHARLES E. DARROW, M.D.,
Rochester, N. Y.

THE cut shown on the next page is an exact representation of a self-retaining Sims' speculum, at once simple and entirely effective. It consists of two parts, a speculum proper and a saddle.

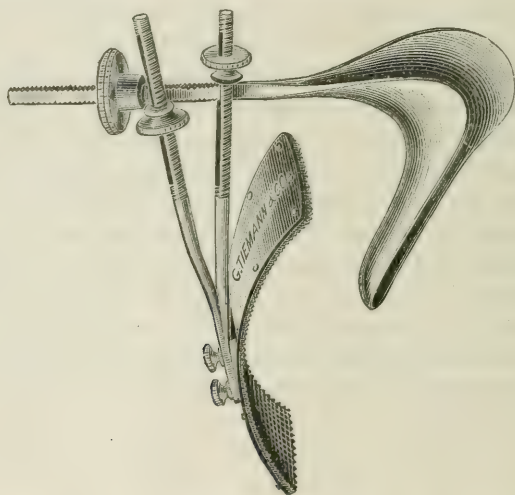
The speculum is an ordinary Sims' with the Mundé flange;

¹ This speculum was made for me by Tiemann & Co., New York, and is now constantly kept in stock by them.

while the handle is flattened on two sides, and has a rapid screw cut upon it.

The saddle is made of a sheet of brass, lined with corrugated soft rubber. The brass is firm enough to retain any curve which has been given to it; yet sufficiently flexible to be bent with the hands, so as to accommodate it to the peculiarities of any patient. The corrugated rubber gives the saddle a firm hold upon the skin; and, at the same time, relieves the patient from all sense of unpleasant pressure.

Upon the back of the saddle are two parallel bars, each provided with a slot and a thumb-screw. These bars are secured to the saddle by two more thumb-screws.



The speculum is introduced exactly as the ordinary Sims'. The saddle is applied to the sacrum, so that its lower edge is just above the tip of the coccyx. The handle of the speculum is then passed through the slots in the parallel bars and the thumb-screw, upon the outer bar, is turned outwards to meet the handle of the speculum (at such a position in the slot as it naturally takes).

Then the large thumb-screw is applied to the bar of the speculum, and by its turns the perineum is retracted to any desired degree.

When this has been done, the thumb-screw on the inner of the bars is screwed down to meet the handle of the instrument and the adjustment is complete.

If it is desired to tilt the tip of the speculum further into the hollow of the sacrum, this may be accomplished by changing the relative positions of the screws upon the bars; or the whole speculum may be carried upward by loosening one of the thumb-screws on the saddle, then raising parallel bars and speculum, until the thumb-screw reaches the higher socket upon the saddle.

Thus it will be seen that all adjustments of the Sims' speculum are provided for.

The work of the hand of an assistant, raising the superior buttock of the patient, is done by the Mundé flange; the holding of the speculum is accomplished by the saddle.

It is claimed for this instrument:

1st. That it is absolutely self-retaining under all circumstances, whether the perineum is ruptured or intact.

2d. That it is capable of any desired adjustment.

3d. That it can be applied in ordinary office practice with no more disarrangement of the dress of the patient than is required for the use of a bivalve speculum.

4th. That it is less uncomfortable for the patient than an ordinary Sims' on account of its perfect steadiness.

5th. That having no straps or other complicated device, it is adjusted as quickly as a bivalve.

As to the proof of these claims, it may be stated that the instrument has been in daily use since September, 1885; all ordinary treatments have been applied by its aid, and both unilateral and bilateral lacerations of the cervix uteri have been successfully and most easily repaired through it. The most violent retching efforts have never displaced it, nor has it needed readjustment on account of any movement or straining of the patient. During a recent bilateral cervix operation (with laceration of the perineum to the second degree), there were five distinct paroxysms of vomiting, without the least disturbance of the instrument. In fact, after adjustment, the instrument cannot be pulled from the vagina without the most extreme violence.

It is desirable that each saddle be provided with two speculum blades, a long one for ordinary work, and a short and broad one for operations upon the cervix.

The simplicity and perfect working of this instrument will be apparent upon the first practical test.

IN MEMORIAM.

PROFESSOR A. COURTY.

(With Portrait.)

FRANCE and science have just sustained a great loss, a loss which will be felt, in particular, by every physician who devotes himself to the practice of gynecology. Dr. Courty, professor of clinical surgery in the School of Medicine at Montpellier, is dead.

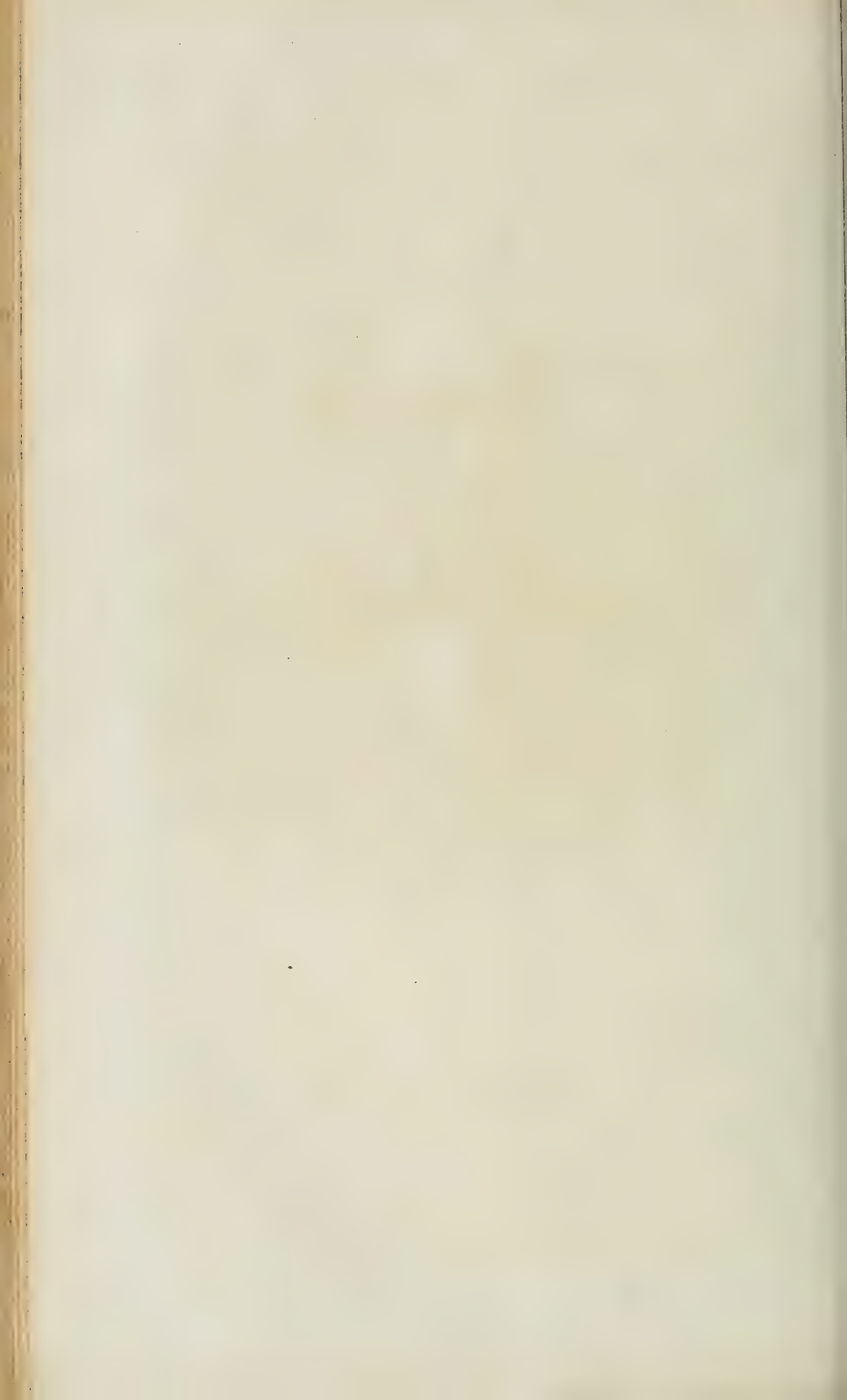
This eminent gynecologist, the son and grandson of physicians, was born at Montpellier, November 2d, 1819. After a thorough education in the classical branches, he began the study of medicine, never neglecting, however, the natural sciences, for which he had a special predilection. He began his medical studies at Montpellier, and came to Paris to complete them. Here, for a time, he drifted away from his favorite subject, surgery, towards embryology, and worked in the laboratory of Coste, professor at the College of France. It was there that he conceived that marvellous work, so often quoted, the subject of his inaugural thesis—*The Egg and its Development in the Human Species* (1845). In 1846 he took the degree of licentiate in the natural sciences. In 1851, after a brilliant examination, he was appointed demonstrator of anatomy at Montpellier. He had here the opportunity of displaying marked qualifications for a professorship. His method of teaching, the lucidity and conciseness of his lectures, attracted numerous pupils. His duties as a teacher, which are possibly abused in France, for whilst the position entails many advantages, it still tends to smother all originality in many workers, did not prevent M. Courty from publishing many original articles, such, for instance, as: *A letter, addressed to Prof. Lordat, bearing on certain questions in general physiology* (1847); *a memoir on the structure and functions of the vitelline appendages of the umbilical vesicle in the chick* (1848); *on organic substitutions* (1848); his thesis for the position of adjunet in surgery, entitled "*The Use of Anesthetics in Surgery*" (1849); and lastly, *Clinical Reports in Surgery* (1850, 1851). We have not the space to



Eng^d by J.L. Phillips

PROF A. COURTY.
MONTPELLIER, FRANCE.

American Journal of Obstetrics
and
Diseases of Women and Children
June 1886.



mention the many further contributions of the eminent professor. We refer simply to the lectures delivered in 1851 and 1852, on anatomical and physiological analysis, and in 1854, his paper on cauterization of the cervix during pregnancy.

Impelled by his natural taste for general anatomy, he had collected the material for a treatise on this subject, when, in 1856, he was called to the chair of operative surgery, and the current of his labors was changed, thus preventing, unfortunately, the publication of a work which would have made its mark. From this time forth Courty devoted himself entirely to the study of operative surgery. The surgery of women had a special charm for him, and, after incessant work and application, such as can only be the outcome of a high-strung temperament, the eminent Montpellier professor, for in 1865 he had been appointed to the chair of clinical surgery, gave to the world a book, or rather a monument, known to every medical man, and which has disseminated the name of Courty to the four quarters of the globe. I refer to the practical treatise on the diseases of the uterus and its adnexa. The first edition of this work appeared in 1866, the second in 1873, the third and last in 1879.

We have now reached the acme in the scientific life of Courty, when our eminent compatriot might well have rested from his labors, and reaped that which he had sown; but life to him meant labor, and from time to time he published other articles. Not a scientific congress but found this sympathetic professor present, and with some communication of interest. He was a collaborator of many medical journals, in particular the *Annales de Gynécologie* of Paris. He wrote the important article on operations in the *Dictionnaire Encyclopédique des Sciences Médicales*.

Courty died on the second of March, 1886, at Montpellier, leaving in deep grief a family to whom he will ever be a precious memory, for he was a good father as well as a good physician; leaving in deep grief medicine and science, both native and foreign. Long will this eminent and indefatigable worker be missed.

A. AUVAR.

PARIS, April, 1886.

TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF NEW YORK.

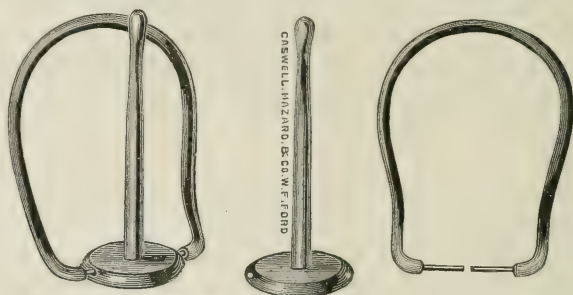
REPORTED BY THE SECRETARY, DR. H. C. COE.

Stated Meeting, April 6th, 1886.

The President, DR. P. F. MUNDÉ, in the Chair.

A NEW RETROVERSION STEM-PESSARY.

DR. H. M. SIMS exhibited a hard-rubber pessary of his own devising, adapted to cases of retroversion in which the cervix uteri is very short. It consisted of a straight stem, to the base of which was attached a ring having the shape of the posterior half of a Hodge-pessary. At the points where the ends of the ring joined



the base of the stem were two peculiar bends, or shoulders, of such a shape that when a downward pressure was exerted upon the stem, the ring was tilted upwards.

The instrument was adjusted by exposing the cervix through a Sims' speculum, pulling the anterior lip downwards and forwards, and at the same time slipping the end of the stem into the os. As soon as the weight of the uterus rested upon the disc forming the base of the stem, the ring was thrown forwards against the symphysis, where it took its *point d'appui*, pressing the cervix backwards, and thus anteverting the uterus.

Dr. Sims explained that the instrument known as the uterine elevator had suggested to him the principle adopted in the pessary. He had invented the latter a year and a half before, but wished to test it thoroughly before offering it to the profession; he had used it in a number of cases, and always to his perfect satisfaction.

THE PRESIDENT asked if he did not understand Dr. Sims to say that the instrument was to a certain extent self-replacing, and that it differed from other retroversion pessaries in not distending the posterior vaginal fornix.

DR. SIMS said that there was no distention of the vagina whatever; the uterus was anteverted by its own weight. It was rarely necessary to bend the ring.

DR. JANVRIN did not understand exactly where the ring rested when the pessary was in position.

DR. SIMS replied that it pressed directly against the symphysis. In reply to a question, he said that the instrument could be worn with comfort for several months, provided that it was occasionally removed and cleansed.

DR. CLEVELAND asked to what particular class of cases it was adapted.

DR. SIMS said that he had used it in those cases in which no other pessary could be retained, *i. e.*, when the cervix was very short.

DR. CLEVELAND inquired if its use was restricted to married women.

DR. SIMS answered that he had two unmarried patients who were wearing the instrument with comfort; in virgins it was, of course, necessary to have small rings.

THE PRESIDENT asked the speaker if he had ever tried the pessary in a case in which the uterus was *retroposed*, while, at the same time, there was antelexion of the cervix and body.

DR. SIMS replied in the negative, adding that he generally employed the galvanic stem under these circumstances.

THE PRESIDENT said that he had found it almost impossible to obtain sufficient leverage to raise such a uterus; he had used the Thomas-Cutter instrument in such cases, but had rarely been satisfied with the result. He thought that if Dr. Sims' pessary could overcome such a displacement its efficiency would be established beyond doubt. He regarded the principle upon which the instrument was made as an exceedingly ingenious one; it was, as far as he knew, unique in its construction.

DR. SIMS said that Dr. Chadwick, of Boston, had invented a pessary similar in appearance to the one exhibited, but the principle of its action was different.

DR. CLEVELAND did not see why the pressure of the vaginal walls upon the ring was not an element in the support afforded to the uterus.

DR. JANVRIN agreed with Dr. Cleveland that it was the pressure of the vaginal walls against the ring that tended to force the cervix backwards and thus to throw the fundus forwards.

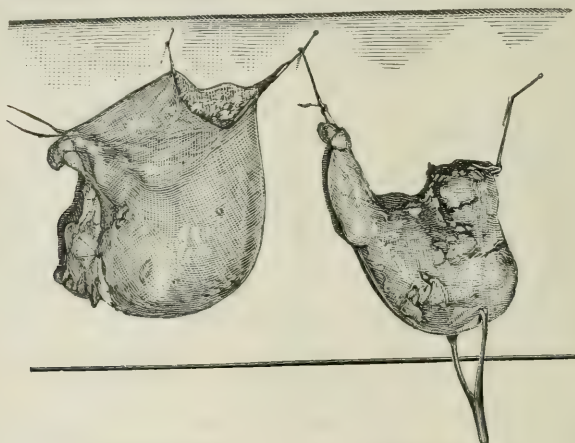
DR. SIMS differed with both gentlemen. He did not think that the ring was sufficiently large to support any pressure from the vaginal folds. He added that when the perineal body was destroyed it was necessary to make the ring both longer and broader than when the latter was intact.

DR. PERRY remarked that he never used stem-pessaries unless there was subinvolution, as well as displacement, of the uterus. He regarded the instrument under consideration as an excellent one; he had often thought of devising a similar one for anteverting the uterus.

A SPECIMEN OF DOUBLE PYO-SALPINX.

DR. SIMS presented two specimens of pyo-salpinx of unusual size, one of which was intact, while in the other the contents of the sac had been evacuated. He related the following history: The pa-

tient was a young girl who had had typhoid fever ten years before. Her menstruation, previously normal, was subsequently attended with severe pain, which at first was confined to the time of the flow, but latterly appeared from two to six days before the periods. Within the past six months she had lost flesh and strength rapidly, and complained of constant shooting-pains. Four weeks before she had been brought to Dr. Sims by her physician. On examination, a tumor was felt on the right side of the uterus, which displaced that organ to the left; another mass could be felt in Douglas' pouch. The latter moved slightly with the uterus. The tumor upon the right side was supposed to be a small ovarian cyst, and an operation was advised; it was performed during the following week. On opening the abdomen, a mass was found which filled the right iliac fossa, and was firmly

Right tube, $7\frac{1}{2}'' \times 5''$.Left tube, $7'' \times 3''$.

adherent both to the uterus and to the bottom of the pelvis. On account of the size of the cyst, it was necessary to evacuate its contents, which proved to be odorless pus. On separating the pelvic adhesions, the hemorrhage was considerable; it was controlled by the application of the cautery, it being impossible to tie the vessels, as they were inaccessible by reason of their position near the floor of the pelvis. The growth within the posterior cul-de-sac proved to be the left tube, which was distended with pus to the size of a large pear. A double-current drainage-tube (devised by Dr. Sims) was introduced, and continuous irrigation with carbolic-acid solution was maintained for three days, in order to control the temperature. The tube was removed on the seventh day, from which date the convalescence was uninterrupted. The patient was then sitting up.

The PRESIDENT asked if the pus evacuated from the first tumor was offensive.

DR. SIMS replied that it had the appearance of pea-soup, and was without odor. In reply to a question, he stated that the patient was a virgin.

The PRESIDENT said that the latter statement was of importance, because, during a recent discussion on the subject of pyo-salpinx, Dr. T. Addis Emmet had expressed the opinion that this condition could only result as a sequela of gonorrhea, or acute endometritis. He thought that the use of the drainage-tube in connection with the case was of considerable interest.

DR. SIMS stated that the patient would undoubtedly have died had it not been for the introduction of the tube. He described his apparatus in detail. It consisted of two hard-rubber tubes, one within the other. The tube was left *in situ*, and it was not-necessary to disturb the dressings while washing out the pelvic cavity. A piece of rubber tubing was attached to one branch (A) of the drainage-tube, and led into a vessel placed between the patient's thighs; carbolized water was pumped in through the other branch (B), and was siphoned out into the vessel. The irrigation was continued until the water came away clear. Dr. Sims said that he had frequently seen the temperature fall rapidly immediately after irrigation.

DR. CLEVELAND asked concerning the indications for drainage.

DR. SIMS replied that he rarely introduced the tube except when there were extensive adhesions; when there was any doubt, however, he always gave the patient the benefit of it and used drainage, and he had never had occasion to regret it.

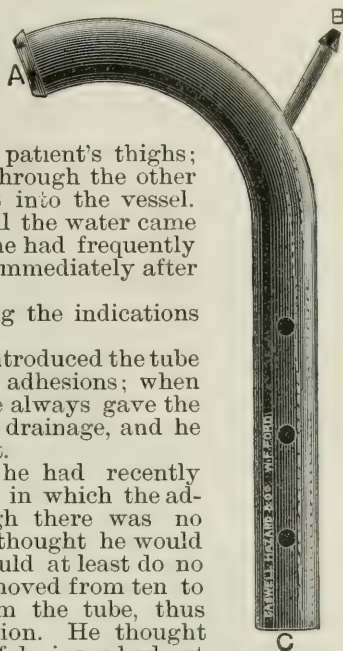
The PRESIDENT remarked that he had recently had a case of double ovariectomy in which the adhesions were numerous, although there was no oozing; after some hesitation he thought he would introduce a drainage-tube as it would at least do no harm. The next morning he removed from ten to twelve ounces of bloody serum from the tube, thus proving the wisdom of this decision. He thought that the patient would have died if drainage had not been maintained.

DR. CLEVELAND recalled a successful case of ovariectomy in a very fat patient with an adherent cyst; although drainage seemed to be indicated, he did not use it, yet the patient made a normal recovery.

DR. B. M. EMMET protested against the use of a drainage-tube in every case in which there were adhesions, unless, at the same time, there was considerable oozing. He had seen more harm than good results from drainage.

DR. SIMS replied that he could recall many instances in which the patients would have been saved had drainage-tubes been used.

DR. CLEVELAND moved that this subject—the indications for drainage after laparotomy—be made the topic for discussion at the ensuing meeting. The motion was seconded and carried.



SPONTANEOUS EXTRUSION OF A SUBMUCOUS FIBROID, CAUSING PARTIAL INVERSION OF THE UTERUS.

THE PRESIDENT stated that he had been called, a few weeks before, to see in consultation a lady who had come from Boston on the same day. She was a widow, forty-nine years of age, who had had one child twenty-eight years before; she had been complaining for several weeks of "falling of the womb." On the day in ques-



One-fourth natural size.

tion, while making a sudden movement when standing, she felt something protrude from the vulva; at the same time there was a pain in the abdomen and an escape of blood from the vagina. Her attendant, Dr. Weber, on examining her hastily, thought that an inversion of the uterus had occurred. The President examined the patient under ether and found, protruding from the vulva, the tumor of the size of two fists, which was exhibited. It measured ten inches in length, and weighed two pounds. No trace of the

uterine cavity could be found, and it was impossible to tell from which side of the organ the tumor sprang. The condition seemed to be one of polypus uteri with partial inversion; the sound could not be introduced at any point. As the woman was very fat, it was impossible to distinguish through the abdominal wall the cup-shaped depression which is characteristic of inversion. The tumor was rapidly detached with the finger-nails and was removed. The cavity was packed with iodoform-gauze, and the recovery was uninterrupted. The interesting points in the case were the rapidity with which the protrusion occurred, and the absence of excessive hemorrhage, as well as the obscurity of the diagnosis. In connection with the case, reference was made to Scanzoni's observations with regard to the frequency with which fibroid tumors led to inversion of the uterus. The President had seen three similar cases, one at the Woman's Hospital several years ago in the service of Dr. T. Addis Emmet, where the diagnosis between inversion and polypus was in doubt for a week; another at Bellevue Hospital under Dr. Lusk, in both of which the polypus was not positively diagnosed until an incision was made into the tumors, and enucleation attempted and completed; and a third one in his service at Mt. Sinai, where he agreed with the diagnosis made by the physician in Worcester, Mass., who sent in the patient, until, under thorough anesthesia, he was enabled to detect a small nodule on the left side by bimanual palpation, which proved to be the uninverted left horn of the uterus. The diagnosis in this last case was greatly obscured by the adhesion of the cervical canal to the pedicle of the tumor all round, so that a sound did not enter the uterus.

DR. W. M. POLK then made some remarks on the subject of

THE CURE OF PROCIDENTIA BY ALEXANDER'S OPERATION.

After dwelling for a short time upon the anatomy of the structures which served to support the uterus, especially the pelvic muscles and fascia, he referred to the injuries to the pelvic floor that resulted from parturition, and to the plastic operations that had been devised for the repair of those lesions. All of these operations had been shown to be imperfect, since they either did not fulfill the indications at the time, or they were not permanent in their results. The speaker here criticised Dr. Emmet's operation upon the posterior vaginal wall, which had for its alleged object the uniting of the torn pelvic fascia; it was hardly possible that this was actually accomplished, in fact, the operator did not know exactly what parts were united. All plastic operations upon the vaginal wall, combined with perineorrhaphy, failed, because not only was the natural support of the uterus not restored, but the tissues were sure to become stretched in the course of time. The operation of shortening the round ligaments offered the most rational method of relieving procidentia, since it restored

the uterus to a position of anteversion in which it could be acted upon by the natural abdominal forces (especially the pressure of the intestines), which tended to keep it in position. The speaker said that he would not dwell upon the *technique* of the operation, as it had already been discussed in the Society, and he intended later to set forth his views upon the subject. He had operated fifteen times, sometimes under circumstances of great difficulty, and was satisfied that Dr. Alexander's contribution to surgical gynecology was an extremely valuable one.

DR. PERRY said that he had witnessed one of Dr. Polk's operations, and was impressed with the value of the procedure, as well as with the manner in which it was accomplished. He desired to ask the speaker if he proposed to give up the perineal operation entirely.

DR. POLK replied in the negative; he had only laid stress upon the anatomical fact that in the operation of perineorrhaphy it was only the integument and fascia which were brought together, and not the ruptured muscles.

DR. B. M. EMMET spoke of the causes of procidentia uteri. He thought that after the destruction of the perineal body and the prolapse of the posterior vaginal wall, the uterus first became retroverted and later procidentia occurred. If the uterine ligaments remained intact, and the perineum was restored (the redundancy of the vaginal walls being at the same time corrected), the uterus could be kept in place. It was not necessary to narrow the vagina, but simply to restore it to its original condition. If the anterior and posterior walls were in contact, there was sufficient support to uphold the uterus, unless its weight was increased by the presence of a fibroid. He did not believe that it was possible to bring the torn muscles together, and, indeed, this was not necessary. One essential point was to reduce the size of the uterus by repairing a laceration of the cervix, if one existed.

DR. POLK said that the principal object aimed at in shortening the round ligaments was to keep the uterus in a position of anteversion, and thus to prevent the retroversion which favored procidentia.

Stated Meeting, April 20th, 1886.

The President, DR. P. F. MUNDÉ, in the Chair.

SPECIMEN OF PREGNANT UTERUS WITH SUBPERITONEAL FIBROIDS—
DEATH FROM SEPTICEMIA FOLLOWING PYELO-NEPHRITIS, THE RESULT OF RETENTION, DUE TO PRESSURE ON THE NECK OF THE BLADDER.

DR. LEE exhibited a uterus removed post-mortem from a patient who was between the fourth and fifth month of pregnancy, together with the bladder and kidneys. Projecting from the anterior aspect of the uterus were three fibrous tumors about the size of lemons. The bladder showed marked evidences of cystitis, the mucous membrane being necrotic; the kidneys were large, soft, and riddled with abscesses, the calyces were distended and contained pus. The history of the case was as follows: The patient

was a multipara, æt. 40, who had entered Dr. Lee's service at the Woman's Hospital three weeks before, having an abdominal enlargement which had been diagnosticated as an ovarian cyst by her former physician. A careful examination revealed the presence of a retroverted pregnant uterus (at the end of the third month), the fundus of the organ being impacted in the sacral cavity, while the cervix was situated so high above the arch of the pubes that it was not accessible to the examining finger. By palpation above the symphysis some subperitoneal fibroids could be felt anterior to the uterus, and pressing upon the neck of the bladder; the latter organ was distended to such an extent that it extended upward above the umbilicus. It was clearly evident that the patient was suffering from retention of urine, since the supposed cyst disappeared entirely on catheterizing the bladder. It was impossible either to replace the uterus or to dilate the cervix, in order to induce premature labor, since the latter was so situated behind the symphysis pubis that it could not be reached. The patient was kept in the hospital under observation, with the hope that, as the uterus enlarged and tended to rise out of the pelvis, the impaction might be overcome and the organ replaced. She suddenly developed pneumonia in the right lung; the local trouble diminished, but a high temperature (103° to 104° F.) persisted, associated with symptoms of septicemia. There was no vomiting, the bowels were regular, and the patient did not appear to be in immediate danger; but on the day preceding this report she sank rapidly and died. At the autopsy, the bladder was found to be greatly distended, the distention being directly due to the compression of the vesical neck against the symphysis by the fibroids. The bladder was the seat of marked inflammation, while both kidneys showed extensive suppurative pyelo-nephritis. An interesting feature in connection with the latter condition was the presence of only a small amount of albumin in the urine, while repeated microscopical examinations revealed but few hyaline casts in addition to the ordinary deposit of pus. The important question involved in the case had reference to the matter of inducing premature labor. Dr. Lee was sorry that he had not attempted this, yet the difficulty was so great, and the condition of the patient caused so little uneasiness that he had felt justified in waiting, for the reason stated.

[At the request of the Society, Dr. Lee opened the uterus. It contained a fetus of about four and one-half months.]

DR. SKENE thought that Dr. Lee was perfectly right in waiting. He asked how long the case had been under observation.

DR. LEE replied that she had been in the hospital about three weeks.

DR. SKENE thought that an effort to produce an abortion would not only have been unsuccessful, but would doubtless have hastened the death of the patient. He recalled a case of retroversion with pregnancy, in which it seemed to be impossible for the uterus to expel its contents even after the cervical canal had been dilated.

Dr. Skene did not know why it was so difficult for the uterus to empty itself, unless it was because it was difficult for the organ to work against gravity. This was the third that had come under his observation in which fatal pyelo-nephritis has resulted from pressure exerted upon the urinary tract by fibroid tumors; this fact went to prove that death from this cause was not so very rare.

DR. FOWLER asked concerning the condition of the urine.

DR. LEE replied that it contained a moderate amount of pus, and on a few occasions some hyaline casts, but no characteristic epithelium; albumin was never present in any considerable amount. The diagnosis of pyelitis had been inferred.

DR. WYLIE asked if the patient had complained of pain in the region of the kidneys.

DR. LEE replied in the negative. The patient had been so comfortable that she was not confined to her bed until the evidences of septicemia had appeared; the renal symptoms were secondary to those of pneumonia.

DR. FOWLER remarked that pyelitis and pyelo-nephritis often existed without the presence of any characteristic appearances in the urine, a deposit of pus alone indicating suppuration at some point in the urinary tract. He recalled a case in which the sediment consisted almost entirely of pus, the diagnosis being made from the presence of a few pelvic epithelial cells.

DR. WYLIE said that he had recently heard of a case of uterine fibroid, in which the patient had been seized with a sudden pain in the right lumbar region which probably pointed to some affection of the kidney.

DR. EMERSON asked how long the patient had suffered from retention of urine before she entered the hospital.

DR. LEE was unable to say. In reply to a question as to the character of the urine first drawn, it was stated by Dr. Hooker (present by invitation) that much of the urine escaped spontaneously on raising the fibroids during the bimanual examination, but that over a pint must have been withdrawn through the catheter, which had an acid reaction, a high specific gravity, and contained a small amount of albumin. Dr. Lee agreed with Dr. Fowler in believing that the presence of pus and pelvic epithelium were sufficient to establish the diagnosis of pyelitis.

DR. EMERSON thought that, in the case under discussion, the condition was analogous to that of enlarged prostate in the male in which a residue of urine remained after the bladder had apparently been emptied and became decomposed, causing cystitis and pyelitis. The obstruction was really at the neck of the bladder, and not at the ureters.

DR. SKENE said that the ureters were rarely obstructed by direct pressure, but rather as the result of retention of urine, their mouths being compressed and a dangerous inflammation resulting, the whole being secondary to hyperdistention of the bladder. He had recently seen a lady who had been confined some time before, whose bladder had been neglected for forty-eight hours after delivery. As a result she had been suffering for several months with marked renal trouble, albumin and casts appearing in her urine; she was then just recovering from the nephritis due to that brief distention of the bladder.

DR. HUNTER did not think that the mere presence of the fibroids, aside from the renal trouble, would have interfered with the favorable progress of the case. He had formerly reported to the So-

ciety a successful case of forceps-delivery in which the uterus contained a mass of fibroids much larger than those in the specimen exhibited.

DR. LEE explained that he did not intend to convey the impression that the fibroids alone would have prevented the induction of premature labor. It was the impaction of the retroverted uterus in the hollow of the sacrum, and the manner in which the tumors were wedged against the symphysis, that rendered the case such a complicated one.

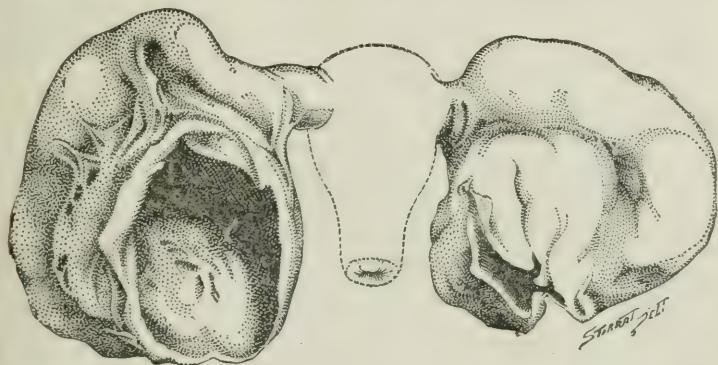
DR. SKENE agreed with Dr. Lee that it was the retroversion of the uterus that would have prevented the pregnancy from going on to term, and not the presence of the fibroids. He recalled an unpublished case that had occurred in the practice of Dr. Bodkin, of Brooklyn, in which a large submucous fibroid filled the superior strait and caused dystocia. Version was performed and a living child delivered. Twelve days after the woman was seized with expulsive pains, and the tumor was delivered spontaneously.

DR. HUNTER asked if it was not unusual for pregnancy to advance to the fourth month in a retroverted uterus.

DR. SKENE had seen a case in which the fourth month was reached without the interruption of gestation.

SPECIMENS OF DOUBLE PYO-SALPINX WITH ABSCESS OF ONE OVARY
—LAPAROTOMY, WITH DRAINAGE—RECOVERY.

THE PRESIDENT exhibited the specimens, and mentioned the following facts with regard to the case: He had first seen the patient eight years before, the diagnosis of chronic oöphoritis having been



made at that time. Two years later, he told her that oöphorectomy would probably have to be performed at some future time. He had not seen her for several years, when about two weeks ago he was called to her on account of a sudden, severe paroxysm of pain in the pelvic region, such as she had often had before. A vaginal examination revealed the presence of a soft enlargement to the right side of the uterus, which appeared to be intra-peritoneal rather than in the cellular tissue; it was slightly but distinctly

movable, within a limited range. On the left side of the uterus was a smaller enlargement, of a more irregular shape, also slightly movable. The uterus itself could be moved upwards and downwards, but only to a limited extent. The presence of this mobility, said the President, was an important point in the differential diagnosis between an intra-peritoneal tumor and diffuse cellulitis.

The diagnosis of pyo-salpinx was made, and was apparently confirmed by introducing an aspirator needle through the vaginal fornix into the right-hand tumor and withdrawing a small quantity of pus. Laparotomy was performed a week ago. On opening the abdomen, a cyst was found to the right of the uterus, adherent to the bottom of Douglas' pouch; in attempting to free the sac, which was extensively attached to the surrounding parts, it ruptured and several ounces of pus oozed out of the wound. There was a smaller cyst on the left side, also adherent. There was extensive oozing from the torn adhesions, which was controlled by long sponging, finally with hot vinegar and water. A Sims' drainage-tube was introduced, and the cavity was washed out at frequent intervals, sometimes as often as once every three or four hours. The tube was still *in situ*, and thick, inoffensive pus was escaping from it. The patient had done perfectly well and there was no doubt as to her ultimate recovery. [She convalesced without the slightest drawback.]

The President said, in conclusion, that the most interesting point in the diagnosis was the *distinct, though limited, mobility of the enlarged tubes associated with limited mobility of the uterus*. This he had never found when the exudation or abscess was in the cellular tissue, that is, extra-peritoneal.

DR. HUNTER, who had witnessed the operation, said that it was complicated from the fact that the patient was very stout.

DR. SKENE asked regarding the length of the abdominal incision; was it sufficiently large to admit the entire hand?

THE PRESIDENT replied in the negative. The wound was at first so small as only to admit one finger; it was subsequently enlarged so as to allow of the introduction of two fingers, but no more.

DR. WYLIE remarked that he had operated upon three patients during the past winter in whom the condition seemed to be similar to that in the case just reported. He believed that when both tubes were distended with pus, and only one could be reached through the vagina, it was better to perform laparotomy. From the fact that a purulent discharge was still present, he inferred that possibly the entire sac of the abscess had not been removed. He always irrigated the cavity with a weak solution of corrosive sublimate after removing such tubes, and he accordingly rarely found that drainage was required later than the third day after the operation. If the study of diseased tubes and ovaries had effected no other good results, it had taught us to recognize the presence of abscesses *before* they ruptured, and thus to anticipate that accident.

THE PRESIDENT remarked that he had not been so fortunate as Dr. Wylie. He had met with many cases of cellulitis which had

culminated in *true* pelvic abscess, but that he had not seen so many abscesses of purely tubal origin as that gentleman.

DR. GILLETTE asked for a description of Sims' drainage-tube, which the President gave briefly (see transactions of last meeting).

DR. SKENE asked the President if he did not make a sharp distinction between pyo-salpinx and pelvic abscess proper.

THE PRESIDENT replied that this was precisely the "bone of contention." On this point he had insisted in his discussion of Dr. Wylie's paper read before the New York State Medical Society last February. *He* certainly did make a distinction, but Dr. Wylie did not.

DR. WYLIE affirmed that at least four out of five pelvic abscesses originated from diseased tubes and ovaries.

DR. SKENE said that he had always been of the opinion that seventy-five per cent of all pelvic abscesses began primarily in the cellular tissue; pyo-salpinx was secondary to disease of the endometrium, either simple or specific.

DR. WYLIE explained that he, of course, excluded from his category some of the acute abscesses of the puerperal state. He had proved his theory to his own satisfaction at the operating table, having had at least six cases during the winter, which had confirmed his views.

DR. SKENE thought that it must be extremely rare for an abscess to originate *within the peritoneal cavity* and then to burrow downwards into the cellular tissue.

DR. B. M. EMMET believed that an abscess might be limited either to the peritoneal or cellular tissue, the former being movable, as the President has pointed out, while the latter was fixed; there was no doubt as to the possibility of these distinct types of exudations. A diffuse exudation within the peritoneal cavity might be very difficult to diagnose.

SUBJECT FOR DISCUSSION.

THE INDICATIONS FOR DRAINAGE AFTER LAPAROTOMY.

DR. HUNTER opened the discussion by saying that he had always been in the habit of employing drainage when there were extensive adhesions, free hemorrhage during the operation and oozing afterwards, and also when there had been rupture of a cyst, with escape of its contents into the cavity. He had never regretted the use of a drainage-tube, but had frequently been sorry that he had not introduced one. He had used different tubes, straight and curved glass ones, with and without lateral perforations, and, recently, the hard-rubber tube devised by Dr. H. M. Sims. This instrument had given great satisfaction; in using it, it was unnecessary to disturb the dressings, and irrigation could be easily and safely performed, even by a nurse. He had used small glass tubes, as well for the purpose of affording an indication of hemorrhage, as with a view of securing drainage.

THE PRESIDENT asked Dr. Hunter how long he left the drainage-tube in position, and how he closed the track left after removing it.

DR. HUNTER said that he had no definite rule; he was accustomed to throw a little carbolized water into the tube each day, and after it continued to come away clear for twenty-four hours, the temperature remaining low, the tube was removed. He always

passed a silver wire through the abdominal wall in the track of the tube, and twisted it after the latter was removed, thus closing the sinus.

DR. WYLIE said that he regarded the presence of ascites, oozing from adhesions, and a noxious fluid in the abdominal cavity as indications for drainage. The principal objection to the use of drainage was the greater liability to ventral hernia, especially if the tube was kept in too long. He did not remove the first tube immediately, but exchanged it for a shorter one before he discontinued its use entirely. Most of the drainage was effected during the first forty-eight hours following the operation; when such a tube as that of Dr. Sims' was used and irrigation practised, it tended to keep up an irritation of the peritoneum, thus really causing a discharge. We should not wash out the cavity unless the temperature rose to 103° F., but should be content with siphoning out the fluid without disturbing the organizing lymph. He had had an extended experience with abdominal drainage, especially when associated with the late Dr. Marion Sims, and believed that much harm was done through the endeavors of surgeons to irrigate the peritoneal cavity.

THE PRESIDENT asked Dr. Wylie if he did not believe in washing out the cavity when the tube contained pus.

DR. WYLIE replied in the negative. He preferred to siphon out and clean the tube, but would not force fluid into the peritoneal cavity. His practice was to remove the first tube at the end of twenty-four hours, and to substitute a smaller one, provided that the discharge had ceased. In reply to a question from Dr. Hunter, he stated that he used a glass drainage-tube, perforated only on the side which looked towards the symphysis pubis, so that neither omentum nor intestines could become engaged in the holes. He had recently used a double tube, one-half of which was longer than the other.

DR. LEE agreed with Dr. Hunter in his remarks on drainage. He had never had good results from the use of straight glass tubes, and believed that they were productive of more harm than good. Of the hard-rubber tubes he preferred Sims' to Thomas'; the use of any tube increased the patient's liability to hernia. He had always considered elevation of the temperature as the chief indication for irrigation; he had used the tubes rather as a precautionary measure. They were certainly used too seldom rather than too frequently.

DR. B. M. EMMET did not believe that the presence of adhesions, moderate oozing (unless it continued after the operation), or ascites necessitated the use of drainage-tubes; it was not even called for after the rupture of a simple ovarian cyst. The escape into the cavity of a purulent, or otherwise injurious fluid of course indicated drainage. Even if suppuration occurred within the cavity after the first twenty-four hours following an operation, the tube was of no use, since it drained a circumscribed space which might be shut off from the affected spot.

DR. SKENE remarked that there was another indication for drainage which should be mentioned—the presence within the abdominal cavity of a large number of ligatures. He took exceptions to the statement made by Dr. Wylie that organized lymph was thrown out around drainage-tubes. He had witnessed an autopsy in which the lower end of the tube was loose within the abdominal cavity. He preferred a glass tube sufficiently long to

reach to the bottom of Douglas' pouch. He agreed with the speakers who opposed frequent irrigation; any fluid that accumulated in the tube could be pumped out, and it was seldom necessary to throw in water, which only tended to stir up and disseminate the pus within the cul-de-sac. There was no harm in using perforated glass tubes, although there was no advantage in having the holes only on one side.

DR. COE ventured to differ from Dr. Skene upon a point in pathological anatomy. He had performed several autopsies upon patients in whom drainage-tubes remained *in situ* after death, and could not recall a single instance in which the track of the tube was not completely shut off from the general peritoneal cavity by a wall of organized lymph. Moreover, he had noticed that even when a tube was removed shortly after an operation, an isolated canal was left, so that water pumped into it remained at a constant level, and did not sink down and disappear as it would have done had there been a communication with the general cavity. In reply to a question from Dr. Skene, Dr. Coe admitted that in nearly all of the cases which he had observed the tubes had been in position for several days.

DR. SKENE said that, as a rule, after twenty-four, and even after seventy-two hours, no organized lymph was found around the tube.

DR. HUNTER could not agree with those gentlemen who disapproved of irrigation, since he had had several cases in which the patient's life was certainly saved by this means, the temperature rising as soon as it was discontinued; he had occasionally continued to irrigate as late as the tenth day.

THE PRESIDENT concluded the discussion by remarking that, as the result of his experience, he favored abdominal drainage, but not irrigation as a rule; contrary to Dr. Skene, he believed that lymph was early thrown out around the drainage-tube, thus isolating its tract from the general cavity. This fact he had confirmed in two cases in which he had found it necessary to re-open the abdomen on the third day after operation.

Stated Meeting, May 4th, 1886.

The President, DR. P. F. MUNDÉ, in the Chair.

A CASE OF HEGAR'S OPERATION FOR SESSILE SUBMUCOUS FIBROID—
DISEASE OF THE TUBES AND OVARIES.

DR. C. C. LEE showed a pair of cystic ovaries with double pyo-salpinx, which he had removed from a patient, twenty-one years of age, who had long suffered from uncontrollable hemorrhage. She entered the Woman's Hospital early in April, giving a history of dysmenorrhœa and metrorrhagia of over seven years' standing, with severe pelvic pain during the intermenstrual periods. Her menstruation recurred at irregular, and too frequent intervals. She had received the usual treatment, but without benefit. On examination, the uterus was found to be enlarged and retroverted, and there was evidently some mass within the uterine cavity. Nothing else could be detected in the pelvis. After dilating the *os internum*, a large sessile fibroid could be felt occupying the region of the fundus, but not projecting far into the

cavity. The uterus was tender to the touch, and was replaced with difficulty. The examination was repeated under ether, and it was decided not to attempt to excise the tumor or to enucleate it with the spoon saw, because of the great danger of perforating the uterine wall. Ergotin was administered systematically; it caused the patient great discomfort, and did not produce any appreciable effect. Hegar's operation appeared to be justifiable. On opening the abdomen, the uterine appendages were found to be firmly adherent, and were the seat of well-marked disease, the ovaries being cystic, while the tubes were both dilated and contained pus, showing that the patient would not have been cured if the fibroid had been enucleated. The case was reported because it illustrated the important fact that the appendages of uteri which had long been the seat of fibroid tumors generally underwent degenerative changes, and as an illustration of Hegar's operation for the cure of the *intra*-uterine fibroids. The patient had a high temperature for several days after the operation, but was then doing well; it was too soon to report on the final success of the measure.

DR. POLK remarked that he had performed Hegar's operation twice. On the first occasion, however, one ovary was so firmly attached to the uterus that, on attempting to free it, the hemorrhage was so alarming that it became necessary to remove the entire uterus. The patient made a perfect recovery. In another case a subperitoneal fibroid pushed the uterus forward against the bladder (the pelvis being at the same time contracted), causing retention of urine, and consequent cystitis. It was impossible to lift the tumor out of the pelvis. The appendages were removed and the patient did well. Dr. Polk regarded the operation as both safe and easy, since the appendages were generally elevated above the pelvic brim, so as to be quite accessible; it was certainly preferable to enucleation of the tumor. The statistics of Hegar's operation would be found to compare favorably with those in which blind attempts were made at enucleation, frequently with fatal results. In such a case as the one reported, there was certainly less risk in removing the appendages.

DR. B. McE. EMMET asked if any attempt had been made to cause extrusion of the tumor by dilating the cervix. DR. LEE replied in the affirmative.

DR. WYLIE said that he had performed the operation three times with good results. In one instance he had attempted to enucleate the tumor, and had partially succeeded; on finding that he could not extirpate it entirely, he desisted, and removed the tubes and ovaries at the same operation. Suppuration occurred in the mass during the second week, and a week later at least one-half of it sloughed away. The tumor was subsequently removed from the vagina with a pair of obstetric forceps. He had performed an operation similar to Dr. Lee's on the day preceding that gentleman's, the result of which had been quite satisfactory. He believed that it was a valuable measure, but was sure that it was often resorted to for the relief of hemorrhage in cases in which temporary relief might be obtained by a thorough use of the curette.

DR. HARRISON had had a similar experience with the curette.

DR. SIMS had only performed Hegar's operation once for the relief of an intrauterine fibroid. The patient was a young married woman who suffered with persistent uterine hemorrhage, accompanied by pelvic pain. Her ovaries were removed two years ago. She was examined three weeks before by Dr. Sims, who found the tumor perceptibly smaller. The old pain was gradually disappearing.

DR. B. MCE. EMMET said that he could report only a single operation, the patient dying from the bursting of a mural abscess into the peritoneal cavity.

DR. HUNTER indorsed all that Dr. Wylie had said with regard to the use of the curette in the palliative treatment of uterine fibroids. He thought, however, that, in the case of rapidly-growing tumors in young women, curetting was sometimes insufficient, and it was necessary to resort to a radical operation. He had been satisfied with the results of Hegar's operation in his own experience.

DR. JANVRIN bore witness to the value of curetting as a temporary measure.

DR. LEE said that he had not referred to the use of the curette in his case, because he regarded this as simply a palliative measure, whereas he had discussed the radical means of relief.

DR. FOWLER cited a case of menorrhagia due to a small interstitial uterine fibroid; the patient also developed an ovarian cyst, which was successfully removed by Dr. Mundé. As the lady was still comparatively young, and the menorrhagia was not in any sense alarming, the healthy ovary was not removed. As menstruation had remained profuse since the operation, he raised the question whether it was not wise to remove both ovaries whenever fibroids were discovered during the course of an ovariectomy.

DR. HUNTER thought that Hegar's operation was indicated in the case of soft (cavernous) or rapidly-growing interstitial fibroids, but not when they were subperitoneal in character.

DR. POLK said that he had shortened the round ligaments in a case of small fibroids on the posterior aspect of the uterus, so as to bring the organ upward in contact with the anterior abdominal wall. The uterus retained its position, but the pain was not relieved. After waiting a year, he performed Hegar's operation, and thus had an opportunity both to relieve the patient and to observe the results of the former procedure.

The PRESIDENT said that he had happened that very morning to receive the last number of the *Centralblatt für Gynäkologie*, No. 17, April 24th, 1886, in which a case of "castration for cavernous myofibroma of the uterus" was reported by Dr. Goldenberg, of St. Petersburg, for his chief, Professor Lebedeff; the result was said to be a "remarkable" one, only one other similar case, with like result—cessation of hemorrhage and marked diminution of the tumor—being said to be reported by Prof. von Söxinger, of Tübingen.

The President said that, so far as the diagnosis of "cavernous" fibroid went, he did not see how it could be made with any sort of positiveness, since the soft, doughy feel of such a tumor as imparted to the fingers on bimanual examination would scarcely differ from that peculiar to muscular neoplasms (myomata) of the uterus. As for the marvellous result claimed by Goldenberg for oöphorectomy in such cases of menorrhagia from uterine myofibroids, the President had, curiously, been called upon that same day, a short time after reading the above article, by a lady from

whom he removed the ovaries last November for hemorrhage produced by a soft interstitial myoma of the anterior uterine wall, which could not be removed through the vaginal vagina, and which had reduced her to a bedridden, excessively anemic condition. Since the operation, she had had but one very slight show of blood, about two months after operation, and was now perfectly well, had gained flesh, had good color, and had recently married. The myoma had shrunk nearly one-half.

The reason why he did not remove the second normal ovary, in the case referred to by Dr. Fowler, was because he did not deem the menorrhagia sufficiently profuse, according to the information given him, to warrant his increasing the risk of the operation (as he *then* thought would be done by a second ligated pedicle), and in removing the chance of future conception, if marriage should take place. The fibroid was small, chiefly subperitoneal, and did not particularly incommode the lady. In a similar case now, with his increased experience, he probably would remove the second ovary.

He had frequently used the curette as a palliative measure, but had seen it fail to arrest the hemorrhage, even when followed by iodine and iron applications to the endometrium.

In one case, he had seen almost complete disappearance of a hard, subperitoneal fibroid, after three electropunctures per vaginam, twenty four to thirty-six cells being used. A year later, the tumor had shrivelled away, so as to be no longer distinguishable as an outlined mass. In another case of an interstitial myoma, where the curette had failed, utero-abdominal galvanization had after several months produced marked decrease of the menorrhagia without reducing the tumor.

He had assisted in one operation of oöphorectomy for an enormous fibroid, where the ovaries were situated so far back as to be very difficult to reach, and where each attempt at ligation of the pedicle produced alarming hemorrhage from the needle punctures. The Paquelin finally secured the oozing, but the patient died of shock. Hysterectomy would have been preferable.

A SPECIMEN OF DOUBLE CYSTOMA OVARIUM PAPILLARE—LAPAROTOMY—RECOVERY.

DR. LEE also exhibited two small papillomatous cysts removed from a second patient. The case was interesting because the tumors, being nodular, non-fluctuating, and projecting downward into Douglas' pouch, were mistaken by Dr. Lee and his colleagues for multiple fibroids. Even when the patient was examined under ether, the growths presented the slight elastic feeling characteristic of softened fibroids. An exploratory incision revealed the error. The cysts were sessile, and were removed with great difficulty on account of the numerous and firm adhesions; the hemorrhage resulting from the tearing of the latter was controlled by a Paquelin's cautery. The patient was making a good recovery. A Sims' drainage-tube was introduced, and left in position for four days.

THE PRESIDENT asked if the original intention was simply to make an exploratory incision, or to remove the tumors, whatever their nature might be.

DR. LEE replied that he only made an exploratory incision, with the view of removing the uterine appendages, provided that the presence of multiple fibroids was established.

DR. WYLIE thought that it was sometimes impossible to distinguish small cystic tumors from fibroids.

THE PRESIDENT remarked that it was exceedingly difficult to tell the precise nature of a small, hard tumor in the posterior cul-de-sac. He recalled a case which he observed ten years before in Philadelphia, in which the uterus was prolapsed, and Douglas' pouch was occupied by two masses which he supposed to be prolapsed ovaries. They were subsequently proved to be subperitoneal fibroids.

A SPECIMEN OF SMALL OVARIAN CYST, WITH HEMORRHAGE INTO ITS INTERIOR, SIMULATING HEMATO-SALPINX—OVARIOTOMY—RECOVERY.

DR. HUNTER showed the specimen (about the size of a lemon) which he had removed two days before from a woman, 25 years of age, who had had successive attacks of gonorrhea. She had been under observation at intervals for two or three years. Six months ago she reported, complaining of dysmenorrhea and inter-menstrual pain. On examination a small fluctuating tumor was felt behind the uterus; it subsequently increased in size rapidly, and was painful to the touch. The history and symptoms were typical of pyo-salpinx, but, on opening the abdomen, the growth was found to be of probable ovarian origin. The cyst was firmly adherent, so that it was necessary to enucleate it. The hemorrhage was slight, and no drainage-tube was used. The patient had done perfectly well.

THE PRESIDENT asked if the tumor gave, on examination, the sensation of being cystic.

DR. HUNTER replied that it did. He further stated that he had supposed it to be a pyo-salpinx.

[At the request of the Society the cyst was opened. It contained a chocolate-colored fluid, and was a pure monocyst, which subsequent examination proved to be ovarian.]

DR. SIMS remarked that he had removed, four weeks previously, a sloughing ovarian cyst, in which a hemorrhage had taken place some time before; the contents resembled the fluid in the cyst presented.

In reply to a question from DR. EMMET, DR. HUNTER stated that the patient had had several attacks of peritonitis, which accounted for the number and firmness of the adhesions.

DR. WYLIE believed that the specimen was an example of hemo-salpinx, similar to tumors that he had removed. Referring to the condition of thickening of the wall of the Fallopian tube, he said that he possessed several specimens. Patients with such hypertrophied tubes generally suffered a great deal of pain; as the patients advanced in years, such tubes seemed to become shorter than normal.

THE PRESIDENT said that this condition was originally described by Kaltenbach, and that he himself had seen several well-marked specimens of thickened tubes; he had suggested the term "pachysalpingitis," as one that seemed to aptly describe the condition. Pure hypertrophy should be clearly distinguished from dilatation;

in the former case there was generally a shortening, or curling up of the hypertrophic tube, as Dr. Wylie had said, while severe pain was the prominent clinical feature.

DR. COE did not believe that the specimen was a hemato-salpinx, as some of the Fellows had asserted. The shape and general appearance of the tumor, the fact that the tube, or a portion of it, was still attached to its exterior, and the character of its lining membrane and contents—all negative the idea that it was a dilated tube. The relations of the growth, as observed during the operation, were those of an ovarian, rather than of a tubal, enlargement.

[A microscopical examination of the fluid revealed the presence of blood-corpuscles, ovarian cells, and Gluge's corpuscles. The cyst appeared to have been lined with columnar epithelium.]

TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF PHILADELPHIA.

Stated Meeting, March 4th, 1886.

The President, B. F. BAER, M.D., in the Chair.

MENSTRUAL EPILEPSY.

DR. HOWARD A. KELLY exhibited recent specimens of tubal and ovarian disease removed within the past two weeks. The first specimens to which he called attention were removed from a patient 21 years of age, who had suffered from an aggravated menstrual epilepsy from the very first appearance of the function. There was no difficulty whatever in the removal through a small incision into which two fingers could just be slipped. The whole operation from beginning to complete closure took but twenty-four minutes. The right ovary was deformed by a very prominent nodule, about one and a-half centimetres in diameter, which burst on removal; discharging a watery fluid, and was shown by its lining membrane to be the last corpus luteum.

The second specimens are rare examples of

HYDRO-SALPINX WITH CONGENITAL DEFICIENCY OF TUBES AND BROAD LIGAMENTS.

In this case there was malformation of the distal ends of the tubes, broad ligaments, and ovaries. The left tube is as large as a Bologna sausage. It was brought into view with great difficulty, after separating many light adhesions to the pelvic walls; while the isthmus is much enlarged and thickened, the great distention is at the involuted ampulla. The operator was materially assisted in bringing this tube into view by upward pressure on the cervix

by a hand in the vagina. The fimbriated extremities were lost in a mass of vascular and fibrous tissue, forming a broad ligament and deep down in this were imbedded the somewhat hard, elongated, large ovaries. It was utterly out of the question to attempt a removal of the ovaries, and any such operation would have been of a very desperate character, nor did he, Dr. Kelly, regret this in the least, as he had planned his operation for *tubal* disease, to which he attributed all the patient's sufferings. The right tube was as large as his middle finger, and was also distended with watery fluid.

The other specimen was a very large

HEMATO-SALPINX.

This tube, the left, about four inches long, burst as he was removing it, discharging four ounces of tarry blood. It was very adherent, having several attachments to intestine and omentum. The dilatation is here, too, seen to be at the ampulla which extended far beyond the ovary back into the cul-de-sac. The ovary is embraced by the isthmus and presents a curious appearance as it lies, about twice the normal size, imbedded in a sort of ball-and-socket manner below the isthmus. Where it is laid open, the tube is converted into one large sac.

DR. W. C. GOODELL had been surprised at the size of the tubes.

DR. JOSEPH PRICE remarked that the tube was so large that the uterus had been pushed aside by it. Great care was required in its removal.

DR. CHAS. HERMAN THOMAS said that some time since he should not have recognized such a condition, but now he can; the result of experience in bimanual examination. He would like to hear further on this point of diagnosis.

DR. B. F. BAER thinks it very unfortunate that the ovaries as well as the tubes could not have been removed in the case just reported by Dr. Kelly, for their presence will probably result in the usual monthly congestion, and consequently the pain and other pelvic distress, for the relief of which the operation was performed, may continue to exist. There are several cases on record in which the tubes were removed and the ovaries allowed to remain, but the results have not been reported.

He can see no reason why this should be done unless the ovaries cannot be found, or some other insurmountable difficulty presents itself. He fully believes in the advantages of prolonged and thorough palliative treatment in these cases. Benefit usually follows, and sometimes cure; at least operation is rendered less difficult and more likely to be followed by recovery of the patient, both from the operation itself and the symptoms. Certainly the application of remedies such as iodine to the fundus of the vagina and the interior of the uterus with prolonged rest and general building-up of the system will have a strong influence in attenuating adhesions, promoting absorption of lymph, and possibly, if not probably, in cure of the patient without operation.

It should not be forgotten that removal of the tubes and ovaries in these cases does not cure absolutely in every case. He believes that we will be called upon in a few years by many of these cases

which have been operated upon to relieve symptoms which still exist or have returned, and for the relief of which operation had been performed; just as we have been called upon from time to time, and pestered by those old cases of chronic hypertrophy and retroflexion of the uterus with pelvic adhesions. He has now under his care one of his own cases upon which he operated for the relief of symptoms, the result of disease of the tubes and ovaries with pelvic adhesions. The patient made a good recovery and appeared to have been cured, but the symptoms have returned, and she is now complaining almost as much as before the operation. She also has periodical attacks of metrorrhagia. This, of course, is an unusual case. He has another patient under his care, who was operated upon in a neighboring city by removal of the tubes and ovaries, and is treating her for the same symptoms of which she had complained before the operation. He is an advocate of the operation in some cases, but he pleads for due deliberation and the exhaustion of careful palliative and preparatory measures before operation is resorted to. Many cases will get well without operation. Some will not be benefited, even if the operation is performed, and there is some danger in laparotomy, although Tait has had such remarkable success.

DR. DA COSTA inquired if Dr. Kelly had tried the benefits of rest and treatment before operating.

DR. JOSEPH PRICE said that the recurrence of symptoms seemed to indicate partial removal of the tubes and ovaries. One of the fundamental rules of surgery is to seek for pus when it is probably present, and in all cases to remove it if possible. When the ligatures will cut through the tubal stump on account of its cheesy character, hemorrhage may be prevented by the application of the cautery.

DR. KELLY, in closing the discussion, said he did not in the least regret that the ovaries could not be removed, as he had operated for tubal disease, not for ovarian, and he admired the zeal of Schroeder, who, instead of always removing the ovaries, sometimes resected diseased portions. In all the cases of tubal and ovarian disease upon which he had operated, months and years of careful treatment had been wasted, and now where he diagnosed pyo-salpinx, the only delay he allowed was to put the patient in the best possible condition for operation. Topical, external, and internal treatment is utterly futile, and will never do more than secure temporary palliation.

Dr. Kelly's reliance regarding diagnosis lay entirely in a skilled bimanual examination, by which he always accurately mapped out all the peculiarities of the case before operation. If there is rigidity and resistance, it is necessary to etherize, but he has yet to see the case, where the presumptive signs were those of tubal and lesser ovarian disease, where the structures could not be picked up between the two hands and outlined. He considers that this tact has been largely developed by persistently examining the condition of the appendages to the utmost possible extent as a routine practice in all cases which come under his notice. Introducing the finger as high as possible, by forcing the hand well under the pubic arch, and carrying the sensitive pulp up against the post-fornix or either lateral fornix, and then playing up and down with the other hand pressing on the abdomen, and creeping a quarter inch at a time without ever fully relaxing, and letting structures in between roll through the two fingers, and in case of an ovary

running round its whole periphery, or of a tube tracing it up to the cornu uteri and down into the retro-uterine pouch where it generally terminates, gives often most surprising results, and would doubtless, if universally carried out, change hundreds of diagnoses of leucorrhœa, endometritis, and flexions with adhesions, to the far more serious ones of pyo- or hemato-salpinx.

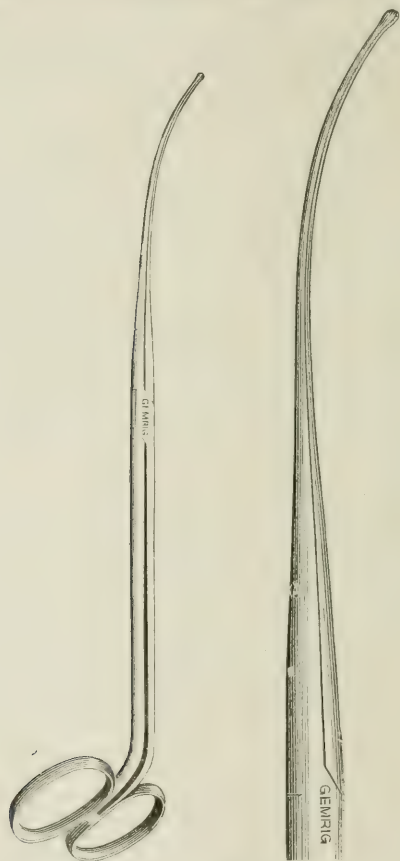
PYO-SALPINX.

DR. JOSEPH PRICE exhibited specimens of pyo-salpinx from two patients, and afterwards remarked that Tait and Keith have ended the dark period by showing us how to operate on the abdomen and pelvis without fear and with little risk. The wonderful advance in pelvic and abdominal surgery should be placed to their credit. He believes it is now universally admitted that they have reached the very acme of perfection. One surely must be a convert to Tait's law to contend with the great difficulties in pelvic surgery: "That in every case of disease in the abdomen or pelvis, in which the health is destroyed or life threatened, and in which the condition is not evidently due to malignant disease, an exploration of the cavity should be made." Standard works on ovariectomy dwell at great length on the subject of adhesions as the most important and difficult complication with which the operator has to contend. In short, in pelvic operations the risk and the difficulty will ever lie in the separation of organized inflammatory products. Adhesions, when old, between the pelvic viscera and diseased tubes, become degenerate, and hence easily ruptured. In one case only did strong adhesions, deep in the pelvis, stay his hand. The right tube and ovary adhered strongly to the sac and right side of the uterus, and the whole adherent mass was absolutely inseparable. Again, the rupture of pus tubes or cysts filled with inflammatory, septic, or malignant elements, will be followed by serious symptoms. Operation becomes difficult when the ovaries and tubes, tightly distended with pus, and softened through pathological changes, cheesy in consistence, are matted together with the rectum and small intestines.

UTERINE APPLICATOR AND DRESSING-FORCEPS COMBINED,

exhibited by DR. CHARLES HERMON THOMAS.—This instrument, which is specially adapted to making applications within the cavities of the neck and body of the uterus, but which is also available for making dressings and applications to the vagina and external surface of the cervix, has borne the test of two years' use. It is in forceps form, the blades are strong and resistant from the handles forward about two-thirds of their length, when they narrow rapidly, so that taken together they become about equal in size to the ordinary uterine sound. This narrow portion, somewhat suggestive of the long beak of the angular ear forceps, is about three and a half inches in length, the tips being roughened on their opposed surfaces. It holds securely

the smallest pledget of cotton, and, by reason of the springy character of the beak, will permit the locking of the handles when a full-sized pledget or tampon is placed within its grasp. The point is slightly probed as an extra precaution when introduced to the uterine fundus, though a small cotton ball answers all needful purposes as a protective tip. I have usually employed the plain point on account of its occupying less space at the internal os



uteri. The beak is curved to a shape corresponding very closely to that of Ellinger's dilator, and which has been found so generally well adapted to entering the uterus. This portion is electroplated with gold, when so ordered (a proceeding of moderate cost and to be commended), as a protective against the corrosive action of iodine, iodized phenol, and the like which so rapidly destroy nickel-plating and corrode polished steel surfaces. The instrument was made under my directions by J. A. Gemrig & Son, of this city.

Some practical points of use may be mentioned. Soiled or medicated cotton is easily removed with the use of one hand only, by simply unlocking the handles and wiping the point in a crumpled paper, thus leaving the other hand free for other employment and avoiding the trouble, the soiling of the fingers, and the whittling often involved when the wire applicator is used. In its use there is immunity from the rasp action of the closely-wrapped cotton of the wire applicator, and also a greatly increased carrying capacity of the cotton for medicated liquids. Moreover, it will be found convenient and desirable to make use of the instrument as a uterine sound incidentally in certain instances. In my own experience it has proved practicable as an applicator, one fully meeting the needs of most cases; while as a uterine dressing forceps for general use it has been found so satisfactory as to have superseded all other instruments of this class.

DR. BAER said the instrument presented by Dr. Thomas was a very ingenious one and would doubtless serve a good purpose where the cervical canal is patulous. A greater quantity of the medicating agent used can be carried to the diseased surface than when the tightly-wrapped cotton is used.

DR. J. F. WILSON had nothing to add to what Dr. Thomas had said. He has used one for several months and could agree with Dr. Thomas as to the ease of application and removal of soiled cotton.

DR. PARISH said that the forceps was valuable and would be much used. As an applicator it will be very convenient. A few years ago the sound and applications were too much used, but extremes either way are wrong. Applications to the endometrium are sometimes needed.

DR. H. A. KELLY said this was a very valuable instrument.

DR. PARISH exhibited a specimen of

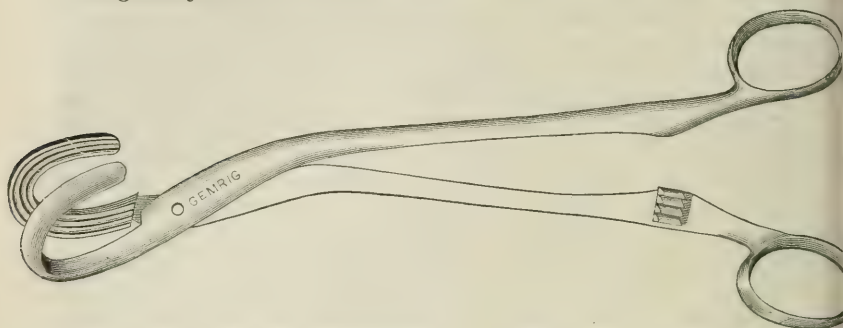
OVARIAN TUMOR

removed the previous day. The symptoms had been very peculiar, and the form of the abdomen was misleading, there being a deep groove across the hypogastric portion of the tumor. Numerous adhesions gave great fixity. These adhesions embraced the colon, parietes, and bladder, and were old and dense. Its rapid growth had raised a question of malignancy. A great portion of the tumor was solid.

DR. HARRIS remarked that a microscopic examination of the tumor should be made. There had been great difficulty in diagnosis as to the origin and character of the tumor. A slight fluctuation could be detected in the lower portion under the use of an anesthetic. There had been no uterine symptoms, and menstruation had been regular. The long Fallopian tube crossed the tumor and made a deep constriction across its middle.

DR. BAER did not think rapid growth a proof of malignancy. He had seen five or six cases of very rapid development, one in three months containing a bucketful of fluid. In none of these cases has there been any return or other sign of malignancy. The

presence of papillomatous growths within the cyst is no proof of malignancy.



DR. JOSEPH PRICE exhibited a

FORCEPS

for the complete closure of the trocar puncture in ovariectomy.

TRANSACTIONS OF THE OBSTETRICAL AND GYNECOLOGICAL SOCIETY OF WASHINGTON.

Stated Meeting, December 4th, 1885.

DR. A. F. A. KING, *President, in the Chair.*

DR. T. C. SMITH reported a case of

EXCESSIVE VOMITING IN PREGNANCY.¹

By request of the President, the discussion was opened by

DR. S. C. BUSEY, who said he would endeavor to comply with the President's request, but feared his remarks would be desultory in character. The Society was indebted to Dr. Smith for bringing up the subject of vomiting in pregnancy, in the case reported, as the history involved all the questions at issue, and the discussion to follow would naturally raise the questions of etiology, pathology, and treatment of such cases, and especially that of treatment by inducing abortion. While commending the paper as a whole, he hoped the doctor would pardon him if he made exception to the lesson inculcated by the paper, as well as to the expressed views of its author. He must also object to the attempt to treat such a patient by daily visits to his office, because absolute rest was the paramount factor of success in treatment. He must also except to a medication continued without avail for six

¹ See original article in this number.

weeks before the abortion was induced, for during all this time he might, after failure of his remedies, have tried other methods. Thus he had admitted that there existed some malposition of the uterus. This at least, he might have tried to rectify, or else adopted the method of dilating the internal os, or applied nitrate of silver; all of which had, in some cases, been successful; and thus he might have avoided the final result. In the treatment of these intractable cases, we must start from the basis of the etiology and pathology of the disease. Some years ago, Dr. Busey had occasion to study this disease in all its bearings, and had then reached the definite conclusions that it was a neurosis, while, at the same time, there were many causes which aggravated it. True, it was a physiological phenomenon, very few women escaping it, some having the slight, and others the more severe forms. There were many causes that carried the physiological phenomena beyond the bounds of health. When remaining physiological, the trouble required little care, and rarely ever had treatment because the physician was not consulted. But it passed the limits of health:

1. Because of defective digestion and improper alimentation; and
2. From emotional causes.

While not prepared to say that the emotions were a common factor, yet looking back over his experience, he thought the severe forms of vomiting were found in those whose nervous system was easily excited. This excitability carried the symptoms beyond the physiological limits. He recalled the case of a woman who began vomiting in the early period of her pregnancy, not being able to retain anything. On one occasion, he entered her room to find her leaning over a cuspador, vomiting the medicine just taken. He gave her at once another dose of the bromide of potassium, which was immediately returned. He then administered another dose, telling her, if she vomited it, he would keep giving it, until she did retain it. This was the last of her vomiting—a result not due to the medicine, but to her fear that she would have to take it again. In another case, the woman vomited all night and for weeks. Here, placed under similar conditions, he compelled her to take the effervescent bromide of potassium, and keep quiet. In a third case, seen in consultation, the patient lived in the country. Her physician had, in vain, tried all the usual remedies. He told her she could retain her medicine if she would let him sit by and give it to her. He did so, and the vomiting ceased, and she took food the next day. Thus the emotions were no doubt a factor in some cases, and when we could control this factor, we checked the vomiting. While we might succeed by medication, yet, in such cases, the best remedy was the confidence of the patient in her physician. Concerning Hewitt's theory, he thought there was more in it than most were willing to admit, but less than its author claimed for it. That incarceration, displacement, flexion, etc., of the uterus were causes in some cases was shown by the reports; and while not always a cause, nor a very frequent one, yet there was evidence sufficient to make us careful before excluding it. Here, also, the trouble was a neurosis, the point from which it radiated being the misplaced uterus. Another theory was that of Copeman, who held that the exciting cause was a contracted *os internum*, rigid, sensitive, and indurated. He, therefore, dilated it, and cases reported proved there was truth in that theory also, immediate relief following the dilatation. Thus, we had stenosis and abnormal tenderness of the neck, from which

the phenomena radiated; and thus everything pointed to a neurosis, and he thought that idea would finally be accepted.

Again, according to Barnes, the disease was of a convulsive character, and each vomiting an explosion of the nervous system. Here again we have the idea of a neurosis.

But there were some cases that could not be classed as neuroses. These were the cases called "pernicious" by Duncan, and this expression had been misapprehended by Dr. Smith. A pernicious form was an intractable form of vomiting associated with some grave disorder in another organ. This happened in Dr. Smith's case. The hyperemesis was due to the co-existing disease, which carried the phenomena beyond physiological limits. To this class belonged the cases of death collected by Guéniot and Du Bois.

Dr. Busey would not weary the Society by referring to the multitude of plans of treatment that had been suggested. His method, which had never failed him and others, and which he had kept up since its first adoption, was partly misunderstood by Dr. Smith. The pivotal point in it was absolute rest of the stomach; he would not allow even a piece of ice. Rectal alimentation was absolute, consisting of enemata of beef-tea, bromide of potassium, tincture of opium and brandy, every four hours during the first twenty-four or forty-eight hours, and afterwards at longer intervals. At the end of forty-eight hours, he began gastric alimentation, giving milk and lime-water. He had again and again tried and succeeded by this plan, and others had had the same success; in fact, he had never seen a case last six weeks. Campbell, of Georgia, however, reported a case supported by rectal enemata for fifty-four days. The point, and the great point, was *absolute rest*, without this any and all medication was ineffective. Hence, if the patient was permitted to come to the office for treatment, she would suffer until the child was born. He summed up, as to treatment, by saying that while the excess of vomiting might be due to stenosis and induration of the os internum, or to displacement of the uterus, or to an eroded cervix, or to emotion, or to food badly assimilated, or to mental disturbances, it still was the result of a neurosis, and amenable to treatment; therefore he held that induction of abortion was rarely justifiable. It might, perhaps, be justified in the pernicious form, after we had exhausted *all* other means. At the same time, we must consider that the mortality after abortion in these cases was about half of that in those left alone. This was a fact sufficient to make us consider, and dwell a long time upon the question of adopting the extreme measure. One theory to be mentioned was that of Horwitz, of St. Petersburg, who ascribed the symptoms to a phlegmonous inflammation of the uterus. This had not been adopted, and even in Horwitz's cases, eleven out of twelve were cured by Copeman's method, and the twelfth was one of malposition. Having referred to the main points in Dr. Smith's paper, and to the history of similar ones, Dr. Busey said he had never seen a case of uncontrollable vomiting of pregnancy, and in this city he knew of but two or three instances in which abortion had been resorted to. He would repeat, therefore, if it must be done, it must be rarely done, and that it was not justifiable until all else had been exhausted, *i. e.*, every means medical, mechanical, and instrumental. Dr. Smith, after six weeks of fruitless effort, adopted abortion as the treatment, and yet without having tried every other method that had been used. He also thought that Dr. Smith was in error when he expressed the view that, if

such patients carried the child to full term, there would be left roots and germs of disease that would carry them off sooner or later. It was true that some died soon after confinement, but this was not our guide. It was much more correct to say that marriage of a person having diseases predisposing to pernicious vomiting should be prevented. Finally he repeated that induced abortion was unjustifiable until all else had failed.

DR. SMITH inquired at what period of a case Dr. Busey could consider that all other treatment had failed? And what would be the condition of the patient to justify induction of abortion?

DR. BUSEY said these were questions difficult to answer, still he would try to do so. He would not admit that abortion was justified if *any* treatment that had ever given success had been omitted. Now, in the case reported, the uterus might have been replaced, or the internal os might have been dilated, or nitrate of silver might have been applied. All these methods presented less danger to the woman than an abortion. If *all* failed, then, perhaps, abortion was justifiable in extreme cases.

DR. MCARDLE inquired whether any one had seen the patient with Dr. Smith, and being answered in the negative, he said he could add nothing to the exhaustive remarks of Dr. Busey, except to protest against any medical man destroying life when advice could readily be obtained. In such cases, we have no right to destroy life without full consultation. While listening to the reading of the paper, he recalled a case which he saw soon after Dr. Busey's paper on the vomiting of pregnancy appeared, of which Dr. Smith's was a perfect picture. He sustained his patient almost for three months by nutritive enemata, and she went to full term.

DR. FRY said that, in mild cases of vomiting, bromide of potassium, bismuth, cerium, etc., sufficed to make the patient comfortable; but in the severe forms, there should be absolute rest of the stomach. Dr. Smith had omitted some important methods of treatment, *e. g.*, the hypodermic injection of morphia, ice-bags to the spine, faradic currents to the spine or epigastrium; all of which had been successful in some cases. These failing, he would conclude that some pathological condition of the uterus existed, and then the means given by Dr. Busey would come into play. He agreed with Dr. McArdle on the importance of consultation in cases which may call for the induction of abortion, after which and other means having failed, he thought the induction of abortion justifiable.

DR. CUTTS said there was another class of cases of vomiting in which the woman went to term, had excess of morning sickness, which gave rise to alarm, and yet there was no loss of weight. Hewitt claimed that in these the cervix was thick and indurated, without malposition. This condition was relieved by Copeman's method. He thought that "dangerous vomiting" would be a better term to apply to cases other than those of the pernicious form than "uncontrollable."

DR. TYLER.—Thus far, the etiological factors in producing the symptoms had been considered in association with the uterus and stomach, but we might also refer to the throat as a locality of importance. Here might be a condition similar to a catarrh, and by treating this we might mitigate the trouble. There is an area in the fauces which, when irritated, would cause vomiting, through the impression made on the terminal nerve fibres supplying the

parts. We also know that vomiting is oftener due to pathological conditions about the uterus than in the stomach. It might then be assumed that the stomach sails between the Scylla of the uterus on one side and the Charybdis of the throat on the other—tossed at the mercy of the pathological conditions existing in either locality. Before resorting to abortion, it might be well to try to relieve the throat by local treatment. In Dr. Smith's case, there was consumption, which may have affected the throat also.

DR. A. F. A. KING was surprised that Dr. Smith should have undertaken the production of abortion without consultation. He always advised the students never to think of doing so without at least one, and, better still, several physicians in consultation. There were many cases of death from vomiting of pregnancy, and Barnes said the number was greater than generally supposed, and that the vomiting was kept up by the death of the fetus when this occurred. Now this was of difficult diagnosis, but, when once discovered, we should produce abortion at once. Copeman discovered his method by accident; he dilated the os internum to produce abortion, but found, on his next visit, that the vomiting had been relieved.

DR. BUSEY said that, while Barnes and others held that a dead fetus kept up vomiting, this was not the general opinion; most held that the death of the fetus stopped the vomiting. Of course, if we discovered that the fetus was dead, we should remove it, as the woman would be liable to suffer from sepsis if that was not done.

DR. KING said the statement referred to by Dr. Busey, that the number of deaths from abortion was greater than where the patients were left alone, must be accepted with great caution. We should analyze the cases, and see if they were similar in both categories. Perhaps the operation had been delayed too long, and better results might have followed earlier interference. So that we could not decide the question, for statistics were unreliable, inasmuch as they did not embrace exactly similar cases.

DR. SMITH said the lateness of the hour would prevent him from answering many interesting points raised by gentlemen who had participated in the discussion. His patient was a weak, delicate woman, whose friends had in vain besought her not to marry, on account of the condition of her health. Pregnancy had acted like a fulminating charge, and the nausea and vomiting were soon in full blast. Replying to Dr. Busey, he said Hewitt's views were not sustained by the members of the London Obstetrical Society where the paper was read. Extracts were read from the discussion to sustain this statement. He also thought Dr. Busey had entirely misinterpreted the meaning of the cases collected by Guéniot, and those reported by Dubois, as they were not stated to have been such as those to which Duncan had applied the term "pernicious." In the treatment of the case by enemata, he had followed out Dr. Busey's plan, and had permitted nothing to be taken into the stomach while that method was being followed. Concerning the criticism that dilatation had not been tried, together with replacement and nitrate-of-silver applications, he would state that, at the time the abortion was induced, the dilatation of the os was sufficient to permit the easy introduction of a large bougie, which condition indicated that dilatation was not called for, while the uterus, in growing, had assumed a nearly normal position. In relation to the suggestions of Dr. Fry as to the methods of treatment which

had been omitted, he would say that life is too short to try all the remedies recommended for the relief of the vomiting of pregnancy, and he had, therefore, used those which had proven useful in other cases; these failing, he had resorted to the treatment mentioned. Referring to the remark of Dr. McArdle that no one was justified, under any circumstances, in destroying life, that is, by inducing abortion, he said if the doctor's opinion was sustained by the profession, all our text-books would have to be re-written. He did not call a consultation to consider the propriety of inducing abortion in the case reported, for the reason that, to his mind, the indications for that course were so plain that he acted upon his own judgment, as he would do in any case clearly demanding medical or surgical treatment.

TRANSACTIONS OF THE GYNECOLOGICAL AND OBSTETRICAL SOCIETY OF BALTIMORE.

Regular Meeting, March 9th, 1886.

First Vice-President, H. P. C. WILSON, M.D., in the Chair.

WM. E. MOSELEY, M.D., Secretary.

DR. P. F. MUNDÉ, of New York, read the following paper:

OVARIOTOMY DURING ACUTE OR CHRONIC PERITONITIS.

It has been my misfortune, in my experience with the operation of laparotomy for abdominal tumors, to meet with the most complicated and unfavorable cases. Thus of sixteen double ovariectomies, there were four intra-ligamentous cysts, three of which contained pus, and were not removable except by piece-meal; in two cases the walls of the cyst were practically rotten, and so friable as to break down under the slightest manipulation; in one case there was a suppurating dermoid cyst, with extensive adhesions to the bladder and pelvic wall; and in two cases previous rupture of the cyst, with the production of diffused chronic peritonitis, had taken place. Adding to this latter category three cases of single ovariectomy during chronic peritonitis, in two of which the peritonitis was due to rupture of the cyst, and in the other to aspiration, and I have had five cases of ovariectomy performed during general peritonitis, one acute and four chronic. Certainly this array of complications does not forecast a high rate of recovery; and, in reality, it stands at fifty per cent of double ovariectomies. But I have the satisfaction of knowing that one patient recovered after operation during chronic peritonitis; one after removal of a suppurating dermoid cyst with lesion of the bladder and catgut

suture; one after removal of a multilocular cyst weighing fifty pounds, all double ovariectomies; and one after partial excision of a huge cyst of the broad ligament, containing forty-eight pints.

Of my single ovariectomies, nearly all recovered. But it is not my object to report here my results in ovariectomy (I must wait until the number of my cases has greatly increased before it is worth while to do this), but to relate very briefly the cases in which I have been so unfortunate as to have presented to me conditions for which I deemed it my duty to operate, and still in which the chances for recovery were next to nothing. I think that from a consideration of these cases some practical deductions for future guidance may be gathered. At all events, I hope to elicit valuable hints from the discussion. I feel it but just to myself to state that in operating upon these, often really desperate cases, I have been actuated by the rule, very properly, as I think, laid down for his own guidance by Dr. Goodell, never to refuse to operate in any case which, in his opinion, offered the slightest chance for the recovery of the patient. And, with him, I have thereby, no doubt, greatly injured my statistics of recovery. But as we usually learn quite as much, if not more, from our failures than we do from our successes, I do not hesitate to report the five cases of ovariectomy during peritonitis, only one of which recovered, feeling that I have nothing to reproach myself for, either in venturing to operate or in the after-treatment. As to the justifiability of immediate removal of an ovarian cyst during peritonitis, acute or chronic, as soon as the existence of the latter condition is discovered, there can probably be no question, since the brilliant results of Keith, Freund, Veit, Tait, and many others; in operations of this kind, some of the apparently most desperate cases have recovered after removal of the ovarian cyst and drainage. The peritonitis may be due to two causes: 1. The inflammation and mortification of the cyst; and 2. Its rupture and the escape of its contents into the peritoneal cavity; and it is on these two points, the diagnosis of the cause and presence of the peritonitis, and the treatment of the cyst contents effused into the peritoneal cavity, that I desire to dwell more particularly. 1. The cause of the peritonitis may be either accidental rupture of the cyst, by violence or spontaneously, the cyst-walls having become inflamed or friable by torsion of the pedicle, outside violence, or without known cause. Or, a not unfrequent occurrence, aspiration or tapping of the cyst may have excited inflammation of the sac or peritonitis. The *diagnosis* of acute peritonitis in such cases is based on the general principles on which that condition is recognized. Subacute and chronic inflammations of the peritoneum, however, are more obscure, and can be suspected or clearly discovered chiefly by a rise of temperature, with morning and evening exacerbations, a dry furred tongue, quick small pulse, general depression—in fact, symptoms similar to those

characteristic of typhoid fever. There is some tenderness over the abdomen, which is, of course, distended if an ovarian cyst is present; but the distention is not so prominent and ovoid as is usually found with that disease. The occurrence of rupture of an ovarian cyst may be surmised from the statement of the patient that at some period, more or less remote, a sudden pain was experienced in the abdomen, as though something had given way, and that thenceforth she had diffuse abdominal pain, fever, and general prostration; further, from the appearance of the abdomen, which is flat while distended, simulating ascites, with tympanitic resonance over the prominent portions, and dulness in the flanks, which relations do not change, or but slightly, on the patient assuming the lateral decubitus. If it were ascites, the area of dulness and resonance would change on altering the position, but the thick ovarian fluid does not shift so easily as the watery ascitic effusion. Besides, there is a boggy, doughy feel of the whole abdomen, different from either ascites or ovarian cyst, and similar to edema of the abdominal parietes. The umbilicus, which is usually somewhat prominent in ovarian tumors and ascites, remains flat if thick ovarian fluid is scattered among the intestines. A wave of fluctuation is usually not perceptible, or is very indistinct, after rupture of an ovarian cyst, unless the fluid is very thin. Per vaginam, only a very diffuse, indistinct sense of resistance is felt in the vaginal vault. On bimanual examination, no distinct cyst, with firm elastic walls, is felt, but the experienced diagnostician will detect a flaccid, yielding, boggy mass in the abdomen, which varies in dimensions in accordance with the time allowed the cyst to refill since the last rupture. Only practised touch will recognize this peculiar sensation and appreciate its relation to the general condition of the patient. 2. The *treatment* of an ovarian cyst, complicated by chronic peritonitis, be the latter due to aspiration or to rupture of the cyst, invariably is laparotomy, removal of the cyst, and cleansing of the peritoneal cavity so far as possible, followed by drainage. There can be no doubt as to the justifiability of this practice; too many operators, of the highest eminence, have adopted it; and its success, as a whole, has warranted their action. But as to the treatment of the contents of the cyst which were effused into the heretofore presumably healthy peritoneal cavity, there exists some difference of opinion. While, *eo ipso*, the only correct treatment would seem to be the immediate careful removal of *all* the noxious contents of the ovarian cyst from the peritoneal cavity by sponging and irrigation, experience seems to show that drainage will, in course of time, entirely and safely remove the ovarian fluid (which is often colloid, that is, thick and glutinous), and that no harm accrues to the system by allowing this usually irritating matter to remain in prolonged contact with the peritoneum. In explanation of this apparent immunity, it should be noted that the peritoneum doubt-

less has, by chronic inflammation, become proof against fresh irritation. My experience warrants me in stating the belief that it is safer to leave the gradual elimination of the effused ovarian fluid (be it thick or thin) to the medium of the drainage-tube than to attempt to remove it manually (if it be stringy and colloid) by prolonged careful sponging, or by copious antiseptic irrigation of the abdominal cavity. I cannot but think that the traumatic irritation of the first procedure, and the shock following the irrigation of so large a surface as the intestino-peritoneal area by an antiseptic lotion (particularly bichloride), are more injurious and hazardous than to allow free voluntary drainage through a tube. I am impelled to this conclusion by the results in six cases reported by Max Runge (*St. Petersburger Med. Wochenschrift*, Jan. 2d, 1886), Netzel, Donat-Sänger, Swieciki, and Korn (quoted by the last-named author in the *Centralbl. für Gynäkologie*, No. 52, Dec. 26th, 1885), and T. A. Emmet (*Trans. N. Y. Obstet. Soc.*, Jan. 17th, 1885). Emmet washed out the colloid material with hot water, injected by a Davidson syringe, but he remarked that "patients almost always died after this material had escaped into the peritoneal cavity"), in all of which rupture of the cyst occurred, an enormous quantity of thick gelatinous matter was found in the peritoneal cavity, which (excepting in Emmet's case) was removed gently, so far as possible; the cavity was then drained, and recovery took place. In Korn's case, colloid matter was discharged from the drainage-tube as late as the forty-fourth day after operation. That the dangers of fresh septic infection, of relighting the subacute peritonitis, and, above all, of seeing the patient die from shock, stare the operator in the face in such cases, can unfortunately not be denied. It is a question simply of leaving the patient to a certain and lingering death, or of giving her the chance of recovery by an operation, the results of which have been often most favorable. My own individual results should be no criterion, since my cases have been exceptionally difficult and unfortunate. After these preliminary remarks, I will give a brief report of my five cases of ovariectomy during peritonitis.

Case I.—Æt. 33, single. November, 1875, apparently unilocular cyst; abdomen exceedingly tense. Operation refused. In order to gain time, and to relieve tension, aspiration with fine needle under antiseptic precautions. Removal of the chocolate-colored fluid. About a week later, high temperature and symptoms of subacute peritonitis. Ovariectomy Nov. 14th, patient with pulse 120, tem. 99.5°, exceedingly prostrated. Cyst entirely removed, peritoneum studded with flocculent lymphatic adhesions and deposits; drainage; death on sixth day from septic pyemia, the right parotid gland showing probably metastatic enlargement and supuration. Earlier operation might have saved this case.

Case II.—Mrs. F., 44 years, multipara; large, apparently solid tumor. Operated on March 10th, 1881; colloid matter escaped on

opening peritoneal cavity. A large multilocular tumor adherent to bladder and intestines; fully fifty ligatures were applied; thorough syringing; no drainage; recovery without a bad symptom. Weight of tumor, thirty-five pounds.

Case III.—Mrs. S., 38 years, single, was seen by me in September, 1883; lived in a farm-house in New Hampshire, seventeen miles from Hanover. Evidently in a septic condition; double ovarian tumors; advised removal as last desperate chance; accepted; day appointed for operation about one week later; drove out with assistants, and found patient greatly weakened by vaginal hemorrhage the night before. I discountenanced the operation, but she insisted upon it. Pulse 130, tem. 102°. On opening the abdominal cavity, gush of colloid and purulent matter; general chronic peritonitis. Right tumor largely adherent; left, intra-ligamentous, rotten, and removable only by piece-meal. Death of patient while inserting abdominal sutures.

In this case I should never have consented to operate but for the urgent request of the patient, and the fact that I had come so long a distance to do the operation. Had the second tumor not been intra-ligamentous, and so difficult of removal, I firmly believe that I could have, at least, removed the patient from the table alive.

Case IV.—This was the most interesting and instructive of all my cases. The patient was a multipara, who, in August, 1883, had a fall on the abdomen, and then noticed an abdominal enlargement, with severe pain, both of which had increased since. The abdomen was found, in March, 1884, when I first saw her, to be flat, with projecting sides, dull on percussion, indistinct fluctuation, which remained unaltered on changing the position of the patient. On the right side, a loose, flaccid mass could be felt. Aspiration was performed, but nothing obtained. On the left side, deep in the pelvis, was found a tumor of the size of a coconut, with tense walls. Diagnosis of rupture of ovarian cyst of right side (probably colloid on account of absence of fluid by aspiration), and of intra-ligamentous cyst of left side was made, and early operation advised. But, as patient still felt pretty well, she decided to wait. Three weeks later, she returned very much worse, and desired immediate operation. Temp. 103°. On opening the peritoneal cavity, colloid, stringy matter escaped in enormous quantity, and it required careful manual efforts to remove even a semblance of all the effusion, which reached from Douglas' pouch to the diaphragm. It seemed to me, and to those who assisted me, imperative to remove as much of this supposed toxic material as possible, and I finally decided to irrigate the abdominal cavity with a 1 to 2,000 solution corr. sublimate, with the patient on the side. The colloid matter came from a cyst of the right ovary, as diagnosed three weeks before the left cyst was enucleated, and proved to be full of fetid pus. The colloid matter removed weighed thirteen pounds. The highly prostrated patient died of shock twenty-two hours after operation.

I feel fairly confident that if I had allowed the colloid matter to find its way out of the peritoneal cavity gradually through a drainage-tube under proper antisepsis, the patient would have stood a far better chance of recovery, as did those of Runge, Netzel, Emmet, etc.¹

Case V.—Mrs. K., 47 years, one child twenty-eight years ago, was brought to me on the first of this month for an abdominal

swelling and great prostration, dating only five weeks back. I found a well-nourished, but cachectic-looking woman, whose abdomen was but little distended, but in whom I could detect, on careful bimanual examination, a flaccid tumor, of the size of an adult head, on the right side. Percussion resonant, except on the right side. Considerable diffuse abdominal pain. Diagnosis, apparently growing ovarian cyst; indication, speedy operation on account of cachexia. On March 3d, while stooping, sudden abdominal pain and collapse. Temp. 102.2°; pulse small and thready. Operation having already been fixed for March 4th was not postponed; on the contrary, the indication for speedy operation seemed increased by the recent urgent symptoms. Feel and appearance of abdomen changed since last examination; tumor less distinct and in centre. On opening the abdomen, gush of evidently ovarian fluid in large quantity; peritoneum highly congested, and covered with recent lymph deposits, certainly much older than eighteen hours (date of pain, etc., day before). Tumor proved to be of left ovary, was very friable, and certain loculi contained pus which escaped into the peritoneal cavity while the mass was being removed; small pedicle. Thorough sponging, but no irrigation of peritoneal cavity. No shock. Drainage. Symptoms of peritonitis on second day. Temp. 102.8° (above which point it never rose). Obstinate vomiting in spite of absolute discontinuance of nourishment or medication per os, and death yesterday morning, that is on the fourth day. But very little bloody serum escaped through the drainage-tube.

I confess that when I decided to speak on this subject before this Society, I hoped and believed that I had every reason to expect this patient to recover. But although sorely disappointed, I feel that I have not been to blame, and that but for the uncontrollable vomiting (which, of course, was reflex from the peritonitis) the patient might have recovered.

In the transactions of the New York Obstetrical Society (meeting January 17th, 1882) I find Dr. Thomas saying, in the discussion on Dr. Emmet's case above referred to, that "he had never had a case end in recovery in which the colloid material of an ovarian cyst had escaped by bursting into the abdominal cavity a week or more before the operation." While, at the time of this statement, it may have been true so far as reported cases go, recently a sufficient number of cases of recovery have been reported (seven which I have noted) to show that recovery may take place after the unfortunate accident of which this paper treats.

I have not come before this learned Society to offer advice, but merely to bring before it my experience in this particular class of ovariectomies, with the hope of learning some points from the gentlemen present which may aid me in improving my record of recoveries in cases complicated by acute or chronic peritonitis.

DR. T. A. ASHBY remarked that Dr. Mundé had called attention to grave troubles following the rupture of cysts into the abdominal cavity. He would like to ask the doctor if he had had any experience with cases in which the cyst contents had been poured into the peritoneal cavity as the result of accidental rupture of the

cyst-wall, and still no unfavorable result had followed. Dr. A. thought this was an exceptional way in which nature dealt with certain cases, the cyst-wall being accidentally ruptured by some violence, and the cyst contents effused into the peritoneal cavity. Being of an unirritating character, it was absorbed and eliminated. He referred to a case reported by Dr. J. E. Atkinson, of this city (*Md. Med. Jl.*, vol. IV., page 229). This case was one of a cyst within the abdomen, diagnosed as *probably* ovarian, *possibly* of the broad ligament. The tumor had reached the size of a pregnant uterus at the seventh month, when it ruptured, and its contents were poured into the abdominal cavity. The growth had not returned at the time the case was reported.

DR. B. B. BROWNE said that, after the rupture of the cyst in Dr. Atkinson's case, there was discharged a large amount of fluid from the bladder, and the question arose, whether from chronic peritonitis the cyst had become adherent to the wall of the bladder, and ruptured directly into that viscus, or the contents had escaped into the abdominal cavity and had been taken up and passed off by the kidneys. The patient made an uninterrupted recovery.

DR. W. P. CHUNN thought Dr. Mundé deserved great credit for operating upon so unpromising a set of cases, and also for so fully reporting his results. A correct prognosis could only be arrived at after the collection of a much larger number of statistics than we now possessed. It was in just such cases as those reported by Dr. M. that abdominal surgery had made some of its greatest advances. He felt comforted by the doctor's remark that it was unnecessary to sponge every particle of effused fluid out of the abdominal cavity, as the drainage-tube could be depended upon for its ultimate removal. He referred to a case upon which he operated, and in which some of the cyst contents, a thick, sticky fluid, even after careful sponging, had to be left in the abdominal cavity. A drainage-tube was used with a good result. He thought Dr. Mundé's remarks upon the diagnostic signs were of special value.

DR. H. P. C. WILSON thought the position taken by Dr. Mundé was the correct one—that if there was the least chance of saving a patient's life, we were in duty bound to give her that chance, without considering what our record might be in a given number of operations. He did not consider the cutting into an abdominal cavity involved in general peritonitis as desperate a procedure as had been supposed. As bearing upon the subject, he related the following case: A woman was sent to him by a skilful physician, for the removal of a cystic tumor of the ovary. The patient was about 38 years old, the mother of seven children, the youngest 2 years old. She reported that she had never had a day's sickness in her life, and in this was confirmed by her physician. There was no abdominal tenderness. A careful examination by himself, and Dr. R. T. Wilson left no doubt in their minds that the case was one of simple ovarian cyst. Under antiseptic precautions, including the spray, Dr. R. T. Wilson opened the abdomen, when about one and a half gallons of greenish-yellow fluid escaped. The case proved to be one of general peritonitis, with a circumscribed peritoneal dropsy, the fluid being confined to the lower front part of the abdomen, and the cavity was formed by agglutination of the intestines behind with adhesions of the omentum and layers of lymph. The patient made a good recovery. He would not hesitate to cut for an ovarian tumor because of the presence of acute

or chronic peritonitis. He agreed with Dr. M. that the abdominal cavity should not be sponged out more than absolutely necessary, and very gently.

With regard to washing out the abdominal cavity with antiseptics, he would say that in a case in which he made an exploratory incision with the view of removing a kidney, he found a fibro-sarcoma of such dimensions and adhesions that the operation was abandoned. It was necessary to use drainage, and two soft-rubber tubes were placed by the side of the tumor and the incision closed. Bichloride sol. (1:2,000) was injected through one tube, and allowed to run out through the other, twice daily for several days, until the incision being nearly healed and the water coming away clear, the drainage-tubes were removed and the patient was considered out of danger. On the eleventh day symptoms of tetanus set in, and the patient died on the seventeenth day. Dr. W. said he thought the antiseptic had nothing to do with the patient's death, and that had it not been used she would have died of septicemia.

In a case which was sent to him as a simple ovarian cyst, and which he considered such, the patient, shortly before the time appointed for operation, upon trying to rise from her bed, felt a sharp pain followed by collapse. Subsequent examination showed that the tumor had disappeared. The patient made a good recovery and has had no return of her trouble.

DR. W. E. MOSELEY would consider it wiser in all cases, where the cyst-contents found their way into the peritoneal cavity, to remove as much as practicable of the fluid. He would not favor violent sponging, as much harm might be done in that way, but he thought a great deal could be accomplished by irrigating the abdominal cavity. He had seen this resorted to by Dr. T. A. Emmet, and did not think any untoward result could be attributed to its influence in any case he had had the opportunity to study. He would not be willing to use a 1:2,000 sol. bichlor. mercury in this free manner within the peritoneal cavity, as, however carefully it was drained out, the large amount of surface would contain a considerable amount of the fluid, and he would fear poisonous effects. He thought that water, freshly boiled in covered vessels and used directly from them, and at the body temperature, would be thoroughly aseptic, and would be as effective in every way and devoid of the irritating properties of the bichloride solution. He did not feel that his experience warranted him in speaking with any great degree of positiveness, but his predilection, in cases of colloid or-purulent material, would be in favor of careful irrigation as described, with the use of the drainage-tube, if necessary, as an adjunct.

DR. P. F. MUNDÉ, in closing the discussion, said he was satisfied that in many cases cysts ruptured into the abdominal cavity and their contents were absorbed without any peritonitis resulting. In one case reported by Dr. T. G. Thomas, rupture had taken place several times, temporarily delaying operation. In one of Dr. M.'s own cases, a small tumor, the cyst had ruptured and had never filled again. He had also ruptured a small cyst intentionally without bad results. Dr. Noeggerath had reported that he had ruptured small ovarian cysts in several instances with good results, as had also Dr. Polk, of New York.

As to just what character of fluid was irritating to the peritoneal surface we had no positive knowledge, but probably the most

irritating was the thick, tenacious, so-called colloid material. He did not wish to convey the impression that he disapproved of carefully sponging the abdominal cavity, except in cases where there was present a thick colloid material which would require an excessive amount of manipulation, and even a decided scraping for its removal.

He thought Dr. Moseley's remarks were very pertinent. The case in which he had irrigated the abdominal cavity with sol. bichloride mercury 1 : 2,000 was operated upon some three years ago, when our knowledge of the deleterious effects of this antiseptic was much less perfect than at present. Of late, he has always spoken against the use of the solution stronger than 1 : 5,000 or 1 : 10,000 in irrigating any large cavity. He thought the warm, freshly-boiled water was much safer than the bichloride solution, and equally effective in washing out the peritoneal cavity. He considered that the cases reported by Runge, Netzel, and others, and referred to in his paper, demonstrated the fact that in those cases where the cyst contents were of a thick, tenacious character, the drainage-tube was the proper treatment, and only moderate, careful sponging should be employed.

DR. F. CHATARD, JR., read the following paper:

EXTRUSION OF FETAL MEMBRANES AT SEVENTH MONTH, WITH SUBSEQUENT RETRACTION.

Mrs. B., second pregnancy; up to date of March 7th, the thirty-third week, nothing unusual had occurred; on that date, I was hurriedly summoned, and obtained from the husband the following data:

Mrs. B. had that afternoon taken a walk of considerable length, and decidedly more than was her custom; as a result, she felt more than usually fatigued, and complained of a sense of weight and fulness about the genitals. Her husband, who was of a rather inquiring turn of mind, made an examination, and found a purplish mass protruding from the external genitals. He at once directed her to keep quiet in bed, and sent for me. I saw her about three hours after her walk, and, in making an examination, found protruding from the labia a soft, fluctuating tumor, about the size of a small chicken egg. This could be traced, by the finger, within the vagina, and extended up to and within the external os uteri, which was dilated to about the size of a silver quarter dollar. The tumor was nearly cylindrical in shape, moderately tense, contents perfectly fluid, with walls about the thickness of the membranes at term; there was no apparent uterine contraction at the time of my visit, no pain, and the sensations complained of immediately after the walk had almost entirely disappeared. I directed her to remain quiet in bed, and if labor pains came on, to check them with an anodyne mixture of chloral and morphia, as she was still within six weeks of her expected date of confinement. At my visit the next morning, I learned the patient had passed a comfortable night, had experienced no pains or uncomfortable feelings; the tumor had retracted so that the

lower portion was about half-way between the os uteri and the external genitals; directed continued rest in bed. On third day, I found the tumor projecting only slightly at the mouth of the womb, which was now contracted to about the size of a three-cent piece. On the fourth day, the os had returned to its normal size and condition, and no membranes could be felt; the patient completed her term of pregnancy, and was confined on April 11th; the labor was normal, the bag of waters forming as usual. The point of interest presented by the case just related is the extreme distention of the bag of waters at this early date, and its subsequent gradual and steady retraction until it returned to its normal situs within the uterine cavity. This, coupled with a corresponding steady contraction of the dilated os, and the continuance of the period of gestation, makes an unique case so far as I have been able to investigate the literature of the subject. The distensibility of the membranes has abundant clinical demonstration at term and immediately preceding the rupture of the bag of waters by the efforts of nature; but the retractility is not often made so manifest, though the possibility of such power has been demonstrated by the researches of Baer, Remak, Vulpian, and others. Their investigations have proven the existence of two layers of the amnion, an internal or epithelial layer, and an external composed of connective tissue, more condensed as it approaches the epithelial layer, and of non-striated muscular fibres. It is by the presence of these muscular fibres that we can explain the phenomena which in the present case are demonstrated clinically. At the same time, the history of the case conclusively proves that a marked degree of dilatation of the os, with corresponding protrusion of membranes, by no means necessarily results in immediate or even approximate completion of the uterine effort, if we can by any means arrest further expulsive action; in fact, the presentation of the bag of waters as here described may be considered as indicating laxity of the membranes and feebleness of contraction of some duration—a condition offering the best chance of successfully arresting the progress of a threatened premature labor before rupture of the membranes occurs.

DR. F. E. CHATARD, SR., had never met with a case similar to that reported. He had always considered that any considerable protrusion of the membranes made speedy labor inevitable, and he had always acted in accordance with that idea. He now recognized that his reasoning had been wrong, and thought the case of great interest as showing to what an extent extrusion of the membranes could take place, and still the labor go on to full term.

DR. A. F. ERICH said that, so far as his experience went, the case reported by Dr. Chatard was unique. He suggested that the membranes were forced out by contractions of the uterus, and the subsequent relaxation of that organ allowed them to retract to their original shape. All cysts have a tendency to assume the spherical form. He thought this a more plausible explanation than that it was due to contractility of the membranes.

DR. MUNDÉ, so far as his experience and reading went, considered the case unique. He was inclined to think that Dr. Erich's theory better accounted for the facts than those brought forward by Dr. Chatard.

DR. ASHEY said that the case reported by Dr. Chatard must be one of extreme rarity. He had never met with any similar case in his own practice, but he recalled a case which had been recently reported, and which was, perhaps, more remarkable in some respects than Dr. Chatard's. The case he referred to was reported to the Chicago Gynecological Society, January 13th, 1886, by Dr. H. T. Byford. The case occurred in the practice of Dr. C. R. Parke. A discharge of the *liquor amnii* took place, labor pains came on, and the umbilical cord became prolapsed. Dr. Parke replaced the cord, and gave ergot. As labor did not progress, he gave morphia, and the pains ceased. Three months subsequently the patient gave birth to a living child. Dr. Ashby said he considered this case unique in character, and, but for the well-known reputation of the gentleman who had reported it, he would feel inclined to question the correctness of the observation.

DR. P. C. WILLIAMS thought it very difficult to believe that there could be a rupture of the fetal membranes sufficiently large to permit a prolapse of the cord, and yet pregnancy go on for any considerable time. Such a rupture must be central, must needs lead to complete draining of the amniotic fluid, and be speedily followed by labor. He had often seen cases in which the "waters" would escape during the recumbent position, but would cease so soon as the patient resumed an upright position. In these cases, he supposed the rupture was slight and near the *fundus uteri*. Whether the explanation was correct or not, the fact remained, that the amniotic fluid might, under certain circumstances, escape in considerable quantities, and yet the pregnancy not be arrested.

DR. H. M. WILSON referred to a case in which there was a pretty constant discharge of the amniotic fluid, for two weeks before labor.

DR. L. E. NEALE thought that the presence of muscular fibres in the membranes would sufficiently explain their retractility, and as this explanation was given by such authorities as Tarnier, Chantreuil (1882), and Charpentier (1883), it was worthy of consideration. Although it did not directly pertain to the case reported, he would like to elicit the opinion of the Society upon the more practical question of the treatment of the membranes during labor. Dr. Byford had recently advanced the opinion that the membranes should not always be ruptured after complete dilatation of the os uteri, but that every endeavor should be made to preserve them intact until they protruded at the vulva, with the object that they might also serve to dilate, by water pressure, the vagina, perineum, and vulva. He (Dr. N.) could say nothing in favor of this opinion, either from a theoretical or practical standpoint, but would be pleased to hear from the Society, and especially from Dr. Mundé.

DR. MUNDÉ did not agree with the teachings advanced by Dr. Byford. He thought that any advantage gained by the dilating effect of the unruptured membranes in the vagina would be more than counterbalanced by the delay in the labor.

DR. NEALE exhibited a modification of Braun's Cranioclast (Craniotractor, Mundé). The principal modification was in the solid

blade of the instrument, which terminated in a *screw-tip* for boring through the fetal skull, thus combining the perforator and cranio-clast in one instrument. Such a modification had been exhibited before one of the European German Medical Societies, and published, he believed, in a number of the *Centralblatt für Gynäkologie*, 1883, and hence was not original. Dr. N. had substituted his entirely removable compression thumb-screw, at the end of the handles, for that of Braun. The instrument was for sale at Mr. Chas. Willm's, of this city.

DR. W. P. CHUNN read the following paper:

A CASE OF OVARIOTOMY, WITH SUPRA-VAGINAL AMPUTATION OF THE UTERUS.

In perusing the history of the following case, we meet with several points which are interesting. A woman, with an enormously distended abdomen not due to ascites, is always an object of curiosity to one who has seen something of these cases. In an unusual case where the diagnosis is gradually narrowed down to a selection between a very large unilocular ovarian cyst and a fibro-cyst of the uterus, the interest taken is still greater, and when, in addition, such a patient has the physical signs and history which would apply to either diagnosis, added to an African descent, we have in hand a case that calls for diagnosis, as well as treatment. Such a case was referred to me through the kindness of my friend, Dr. Charles Mitchell, of this city, and the diagnosis and subsequent treatment of this patient is the reason for my presenting these lines to the Society to-night. Upon first seeing the patient, I was struck by the very large size of the abdomen, and upon inquiry elicited the following history: She was a mulatto, was rather dark in color, and might consequently be called a negress, although not coal-black. She was 20 years of age, the mother of one child, 6 years old, had suffered no miscarriages. About three years before I saw her she had noticed that her abdomen was gradually enlarging, symmetrically, from below upwards, until it had attained its greatest size. Her menstrual flow had been regular, in regard to time, but slightly exaggerated at some of the periods. She measured fifty inches in circumference around the largest part of the abdomen, and the tumor was prominent, and projected the abdominal walls decidedly forward. Palpation showed fluctuation very plainly in all directions. Percussion gave flatness all over the abdomen, except high up over the transverse colon and stomach, and to a slight extent in the flanks. Where there was resonance in the flanks, I also discovered fluctuation, showing ascites to be present. Vaginal examination being practised showed that the tumor did not project into Douglas' pouch, but, on the contrary, had carried the pelvic floor aloft with it, in such a manner that the pouch was obliterated. The vagina was so pulled up in the pelvis that the cervix could not be felt by the examining

finger, but the position of the uterus was readily determined, by palpation, to be high up on the anterior aspect of the growth, about an inch below the umbilicus. Every motion imparted to the tumor gave a similar impulse to the uterus. Owing to the position of this organ, it was impossible to make use of the uterine sound. Knowing how rare ovarian disease is among the African race, and bearing in mind the physical signs presented, I was inclined to think that I had a case of fibro-cyst of the uterus to deal with. A number of other gentlemen saw the case with me, and, with one exception, confirmed the diagnosis; Prof. Wm. T. Howard, however, thought differently and pronounced it ovarian, saying that, although fibroids were very frequent in the African race, fibro-cysts were as seldom met with as ovarian cysts; and, moreover, as he had never heard of a fibro-cyst under 27 years of age, he was opposed to the diagnosis of cystic disease. The literature on the subject proved scant. Thomas, Emmet, Barnes, Courty, Edis, Tait, and Wells do not mention having seen ovarian dropsy in the colored race. As the patient was rapidly going down-hill, it was evident that, if her life was to be saved, something would have to be done speedily. Her urine, being examined, was found to contain albumin and all sorts of tube casts in the utmost profusion. However, I decided to do an exploratory incision at any rate, and afterwards be guided by circumstances, being prepared to do hysterectomy, if necessary.

On December 22d, the patient was etherized, and the usual incision made in the linea alba. With a few strokes of the knife the peritoneum was opened, and a glistening, pearl-colored cyst came into view. The appearance of the growth showed its ovarian origin. The patient was then turned on the side, and about a quart of ascitic fluid was allowed to drain away. The cyst was then tapped with a large Wells trocar, and three or four pailfuls of a dark chocolate-colored fluid withdrawn. As the fluid drained away, the sac was pulled through the abdominal incision, the hand having been introduced into its interior to break down smaller cysts. As the sac emerged still further, two large attachments to the omentum had to be separated and tied with silk. Both of the ligatures were returned into the abdomen, after being cut short. Steady traction being now made, the lower part of the sac was delivered through the abdominal wound, and with it also came the uterus. This organ, as was diagnosticated before the operation, was found six inches above the pubes, imbedded in the anterior wall of the sac. The left side was covered by the broad ligament, which embraced also the lower part of the cyst on that side. On the right lateral border, the uterus was free from attachments, but the posterior aspect was imbedded in the cyst-wall in a sort of bas-relief fashion. So then it was seen that the uterus was firmly attached, by all of its left side, by the fundus, and by its posterior aspect. This appearance led me to decide that it would

be impossible for me to separate the uterus from the cyst-wall, and so I decided to clamp the cervix and pedicle of the sac as low down as possible, and trust to the extra-peritoneal method of treatment.

With this idea in view, the cyst was pulled through the abdominal wound, and Dr. H. P. C. Wilson kindly adjusted his chain clamp around the pedicle, while I supported the parts, the chain being so manipulated as to embrace the cervix about the vaginal junction, together with lower part of the ovarian sac, nearly all of which could be pulled up into the bite of the chain. The left broad ligament was also included, as it encircled the lower segment of the tumor on the left side. Fearing that by some chance the bladder might be included in the clamp, I had a sound passed before the chain was tightened, but the sound in the bladder seemed to show that, so far from the bladder being grasped by the clamp, it was really nowhere near it. Everything being now in readiness, the chain was tightened up, and the tumor rapidly cut away along with the uterus about the vaginal junction. The stump was then adjusted in the lower angle of the wound, the upper portion of the cervical canal cut out and cauterized, and the overlapping part of the stump closely trimmed off. As some of the ovarian fluid had unavoidably escaped into the abdomen, a Davidson's syringe was used to thoroughly wash the peritoneum. It was found impossible to get all the fluid out of the peritoneal cavity, so, after repeated spongings, a drainage-tube was put in the wound just above the stump, and the incision sewed up with seven or eight silk sutures. The small number of ligatures used was due to the thickness of the stump, which filled up a good deal of the lower part of the abdominal opening. Persulphate of iron was used to tan the parts projecting above the clamp, and iodoform being plentifully sprinkled over the parts, the usual dressing was applied, and the patient put to bed. Time of operation, one hour and thirty-five minutes. Pulse, 120; temperature $98\frac{1}{2}^{\circ}$ (December 22d).

December 23d, the day succeeding the operation, at 7 o'clock in the morning, the pulse was 150, temperature, 101° . In the evening of the same day, pulse and temperature were the same as in the morning. At night, however, the pulse beat 160 to the minute, with a temperature of 102° . The patient seemed bright and fully conscious. On the third day, the pulse, under digitalis (30 gts.) come down to 120, and I began to be more hopeful. There was no nausea at any time, and at 6 o'clock in the evening flatus was passed by the rectum, giving considerable relief. All the while a great deal of serum was coming away through the drainage-tube, but as this discharge ceased on the fifth day after the operation, it was withdrawn, and the opening closed by a suture, which had been before introduced for that purpose. The pulse and temperature, however, remained rather high (pulse 126, tempera-

ture $102\frac{1}{2}^{\circ}$), and on the eighth day fluid was detected in the lower part of the pelvis, and fluctuation finally became evident. The position of the fluid was just in front, above and a little to the right side of the remains of the cervix, and caused the abdomen to project just as if the bladder was distended with urine. As the fluid was evidently just beneath the abdominal walls, and as there was great danger of wounding the bladder or ureters by an incision through the anterior wall of the vagina, I decided, with the assistance of Dr. H. P. C. Wilson, to do a second laparotomy. The patient refused any anesthetic, and consequently I operated without any. An incision was made in the median line about three inches above the symphysis, and the tissues divided layer by layer until the peritoneum was reached. This membrane being finally divided upon a director, a quick gush of foul serum found vent, and the swelling immediately disappeared. A Davidson's syringe was introduced into the cavity, with a view to wash out the whole lower part of the abdomen, but the water was almost immediately returned, showing that the cavity I had to deal with was a shut sac. A drainage-tube was left in place, and the abscess was washed out three times daily, after which it gave no further trouble. The pulse and temperature at once came down as a result of treatment. About the seventh or eighth day after operation, a clear fluid was noticed to wet the bandage, and to be continually dribbling away from the abdominal wound. This secretion had the odor of urine, and careful examination afterwards proved it to be such. On January 1st, 1886, the temperature rose, and in the morning the thermometer registered $104\frac{3}{4}^{\circ}$, or between that and 105° . This temperature kept up for three days, off and on. At times, by sponging and the hypodermic use of quinia and urea, I could reduce it to 103° . On the morning of the 3d of January, the temperature stood at $104\frac{3}{4}^{\circ}$. I then gave 3 ss. of antipyrin at one dose, and on coming back in the afternoon, at 3 o'clock, found the temperature had come down to 102° . The pulse was full and regular, at 110. I had no more trouble with the temperature after this, as twenty or thirty grains of antipyrin would always reduce it to 100° or 101° . The pulse would also become stronger and less frequent. This treatment was tried, and always with the same result. The high temperature was in part due to a pelvic peritonitis which became developed in Douglas' cul-de-sac later on. As this mass behind the posterior wall of the vagina become soft and edematous, I resolved also to make an incision into the posterior vaginal wall. The patient being lifted on a table, and fortified with a good drink of whiskey, was placed on her back, and in this position I stuck a sharp-pointed bistoury into the swelling, and was rewarded by a slight quantity of serum. The swelling, however, did not materially disappear, as much of it was due to inflammatory infiltration in the cellular tissues. This inflammatory attack kept the tempera-

ture and pulse somewhat elevated, and affairs progressed as in any ordinary case of pelvic peritonitis. On the 5th of February, a small pelvic abscess burst into the abdominal wound, and afterward convalescence rapidly ensued. The patient went on then to an entire recovery, and is now perfectly well. The clamp came away on the thirteenth day after operation, but the stump had to be trimmed frequently afterwards, and great care was necessary to keep the part aseptic. The pedicle in the beginning was hard and leathery, but as pus welled up around it from the healing of the wound, it became quite offensive. Among the questions that might be asked as bearing on the case is the query: What became of the other ovary? To this question I am free to confess I do not know, as I neither saw nor felt it during my manipulation about the tumor, nor while I had my hand in the pelvic cavity. Other operators have left an ovary behind with no bad result, and I did not feel at liberty to enlarge the incision to hunt up an organ which would never be of further use. Since the operation, she had passed over three menstrual periods, with no disturbance of any kind, and without any flow of blood from any organ, and I see no reason why this condition of things may not continue. The discharge of urine from the wound about the fifth day inclined me to believe that I had included one of the ureters in the clamp, as I have already stated, but I was led to change my mind by the following facts: If the ureter had been included, what would have become of the urine that should have been excreted from that ureter during five days? And again, later on, when the patient began to get about, owing to the upright position, not near as much urine drained away, or did while lying down; and, moreover, when she was up, and emptied her bladder frequently still less discharge was noticed than ever before. Dr. Mundé informs me that Prof. Simon, of Heidelberg, had a case somewhat similar, where the ureter was tied, and afterwards gave rise to an urinary fistula. He did a second operation, and cured his patient by taking out the corresponding kidney. If only the bladder is constricted, it seems to me that it would prove comparatively easy to open the abdomen and separate the bladder from the adhesion to the cicatrix, and thus close the fistula. As in time the stump will settle deeper and deeper in the pelvis, it may come to pass that the attachments between the bladder and the abdominal wall may become so attenuated that the fistula will be obliterated. Another point of interest about brings the history to a conclusion. Before the operation, the urine was examined, and found to contain albumin and tube casts in the utmost profusion. I looked upon this condition as merely the results of pressure and malnutrition superinduced by the abdominal tumor, and another examination two months after the operation confirmed the correctness of this view, as the urine was then without albumin or tube casts of any kind, and only showed some oxalate of lime crystals. So far,

then, from regarding casts and albumin in the urine as a contra-indication for operation, I think the operation in large tumors should be looked upon as the only means of relieving that condition. If I mistake not, a certain operator on the Continent did a hysterectomy, and for some good reason left one of the ovaries behind. The woman recovered, conceived again, had an abdominal pregnancy, and was delivered by laparotomy. This case caused me to consider the advisability of entirely closing up the cervix by Emmet's operation, and thus prevent possible accident. In closing, if I may be allowed to mention the idea most forcibly impressed upon my mind by this history, I would say that, while the extraperitoneal method of dealing with the stump may be unavoidable at times, it gives rise to grave accidents, which a secure intraperitoneal method does not engender, and that it will not be the method of the future.

Discussion postponed until next meeting.

TRANSACTIONS OF THE GYNECOLOGICAL SOCIETY OF CHICAGO.

Meeting, Friday Evening, February 19th, 1886.

The President, DANIEL T. NELSON, M.D., in the chair.

DR. A. REEVES JACKSON opened the adjourned discussion of the treatment of pelvic abscess by the presentation of the following paper, entitled:

LAPAROTOMY FOR PELVIC ABSCESS.

Owing to Dr. Jackson's absence, the paper was read by the Secretary, Edward Warren Sawyer, M.D.

At the December meeting of this Society, a discussion arose upon the subject of pelvic abscess and its treatment. It was based upon the report of a case by Dr. H. T. Byford, which had been treated by favoring discharge of the pus by way of the rectum, and placing within the abscess-cavity a portion of sulphate of copper to promote granulation.

The discussion seemed unfinished, and was withal of so interesting a character that I have thought well to reopen it by the relation of the following case. Whether the operation performed in the treatment of the case should be termed a laparotomy will depend upon what significance we attach to the term. Upon this point, opinions will doubtless differ.

If we understand by the word laparotomy the opening of the abdominal cavity in its largest sense, the term is here correctly

used; but if, on the other hand, we mean the opening of the abdomen for the relief of an *encysted intraperitoneal abscess non-adherent to the abdominal wall*, the term would not be properly applicable, for here there was complete adhesion, and, possibly, in the course of time, the abscess might have pointed and opened in that direction, although I do not believe that such result would have occurred. Without active interference, I think the disease would have resulted in death from pyemia in a very few days.

On March 9th, 1885, I visited Anna N., in consultation with Dr. Louis Braun, of this city. She was 24 years old, had been married six years, and had one child 18 months old. On February 1st—five and a half weeks prior to my visit—she had miscarried, producing a fetus 4 months old. A few days after that event, Dr. Braun found the patient suffering from symptoms of pelvic inflammation, which had since continued with varying severity. He informed me that the pelvic swelling, which he detected on examination, appeared to involve all the periuterine structures, but to a greater extent on the right side, that during the past few days, however, it had seemed greater on the left side. From the onset of the attack, the pulse had been rapid and the temperature elevated—the former ranging from 110 to 130, and the latter being persistently over 102° F., reaching, on one occasion, 104° F. Pain had been severe, but controllable by morphia. The appetite had failed utterly, and the stomach finally rejected all food.

At the time of my visit, the patient was pale, extremely emaciated, and her visage showed marks of prolonged suffering.

On examination, I found on the left side of and behind the uterus a swelling as large as a medium-sized orange, with rather indistinct outlines. Its lower portion was in a plane with, or somewhat below, the *os uteri*, and bimanually its upper margin could be felt extending above the fundus, which was pushed strongly to the right. Both uterus and tumor were immovable. The latter had a slightly elastic feeling in some places, although I was unable to detect any certain fluctuation through the vagina, rectum, or hypogastrium. Through the posterior vaginal wall, at a point about an inch above the lower portion of the swelling, I fancied I received a sensation of bogginess, and this, taken in connection with the history of the case, gave me the belief that pus was present. Accordingly, I thrust a curved trocar and canula into the swelling by way of the vagina to the depth of about two inches, with no other result than the emission of a few drops of blood.

It was then concluded that the patient should have prolonged hot-water vaginal douches daily, rectal feeding, and appropriate anodyne and tonic medicines.

On April 18th—five weeks later—I saw the patient again, with Dr. Braun, who reported that after my former visit the symptoms had all become gradually ameliorated; the stomach resumed its

functions, pain subsided, pulse and temperature became normal. No menstrual or other discharge had appeared. This improved condition had continued until two days before, when, without apparent cause, the patient had a chill, followed by rapid pulse, high temperature, pelvic pain, and irritability of the bladder.

Under anesthesia, I examined the abdominal and pelvic organs. The pelvic swelling had undergone no marked change, except that it seemed to have increased in an upward direction, extending now to a point about an inch above the *symphysis pubis*. At this place, I thought I detected obscure fluctuation. The swelling as felt *per vaginam* was hard at every accessible point. All operative measures were declined by the patient and her friends, and the treatment advised consisted in the administration of morphia and quinine, and peptonized milk for diet.

April 19th, the patient was much worse. The pelvic pain was controlled only by large doses of morphia given hypodermically, and the stomach retained almost nothing. The pulse was 130, temperature 102° F. It was decided that laparotomy should be performed the following day.

April 20th. There were present as assistants Drs. Steele, Braun, Sterl, Dickerson, and Mascheck. A spray of carbolized water had been kept playing in the room for several hours. The patient was etherized, and the bladder emptied by catheter. She was the thinnest person I ever saw placed upon an operating table. Immediately before the taking of ether her pulse was 124, temperature 103° F.

The hair of the pubis was shaven off, and the skin of the abdomen washed with soap and carbolized water. An incision three inches long, ending below at the upper portion of the *mons veneris*, was made in the middle line of the hypogastrium. Deepening the cut, I came upon the peritoneum, which, however, could not be separated from the parts beneath. Proceeding inward through dense structures, the knife suddenly entered an abscess cavity, which at once gave exit to a stream of pus to the amount of two or three ounces. Passing my finger through the opening, I found that the cavity extended downward, behind and to the left of the uterus, about three inches. The abscess walls proper could not be accurately defined. The inflammatory processes had matted together the upper part of the uterus, the left broad ligament, tube, and ovary. The cavity was washed out, and a rubber drainage tube passed to the lower end, the outer portion of the tube being stitched to the edge of the wound at its lower extremity. The remainder of the wound was closed with sutures, and dressed in the usual manner.

The night following the operation the patient slept fairly well without an opiate.

When I saw her the next day, she had taken milk and lime-water with relish; her pulse was 108, and temperature 100½° F.

In brief, the relief of the symptoms was immediate, and the recovery uninterrupted. Pus continued to discharge for more than six weeks in constantly diminishing quantity. The tube was then removed. Menstruation appeared July 20th, and has been regular since. I examined the patient September 25th. The uterus was still in a position of right latero-version, but movable in a slight degree. The parts about the left broad ligament were thickened, and somewhat tender. An irregularly shaped mass occupied Douglas's space, and extended upward and to the left. The patient had gained greatly in weight, was ruddy, and doing her own housework.

In a letter dated December 29th, she states, "I have no pain, and feel better than I have for four or five years."

Dr. Jackson appended the following note from Mr. Lawson Tait:

7 THE CRESCENT,
BIRMINGHAM, January 4th, 1886.

MY DEAR SIR:—I have performed now thirty-two operations for pelvic abscess, in every one of which a cure has resulted.

Yours very truly,

LAWSON TAIT.

DR. CHRISTIAN FENGER.—Before entering into the discussion of the paper which has been read here this evening, I wish to remark that I came here under the impression that the entire subject of suppurative pelvic inflammation was to be dealt with; I now see the subject is limited to the treatment of pelvic abscess by laparotomy. The operation performed in Dr. Jackson's case I should not call a laparotomy at all, but simply an oncotomy. An abscess was opened, and the operation does not differ materially from the opening of a deep-seated abscess in any other region of the body, *e. g.*, in an extremity. As I understand the term laparotomy, and I am not aware that it is ever used otherwise, it means that section of the abdominal parietes is followed by an operation, performed within the peritoneal cavity. If the wall of an abscess situated in an abdominal organ has become adherent to the visceral surface of the abdominal parietes, the peritoneal cavity is of necessity obliterated to the extent to which adhesions have formed. An incision made over such adhesions does not open the peritoneal cavity, and consequently the operation cannot be spoken of as a laparotomy. In the paper which I published on "Laparotomy for Periuterine Abscess," it is distinctly stated that the only way by which it seemed possible to get at the abscess was by opening the peritoneal cavity, it is also mentioned that omentum and intestines were found between the walls of the abscess and the walls of the abdomen.

Concerning the etiology of pelvic abscess, I should like to call attention to the literature of the subject. Säger,¹ whose statements regarding etiology I have found to be the most complete, says that one out of nine of all gynecological affections is of gonorrhoeic character. He further says that fifty per centum of these are diseases of the uterine appendages; although, of course, any part of the genital tract may be primarily invaded. In the Fallopian tubes, he finds that disease most often has its principal focus, where it begins and whence it spreads. He distinguishes six

kinds of salpingitis: (1) septic, puerperal, and non-puerperal; (2) tuberculous; (3) syphilitic; (4) actinomycotic; (5) gonorrhoeic; (6) a mixed form. The gonorrhoeic is the most common form of the disease, and it produces the most severe cases of pelvic inflammation.

It has as yet not been proven that the gonococci of Neisser can, of themselves, produce abscesses; but destruction of the surface of the mucous membrane is sufficient; an entrance is thus given to the septic, pus microbes, the *staphylococcus aureus* and *albus* and the *streptococcus pyogenes*, which are probably always present.

The invasion having taken place, we must ask ourselves, By what channel does the inflammation travel? Where should we expect finally to find an abscess in case one should form? The Fellows will remember the beautiful experiments of Bitas, Koenig,² Schlesinger;³ experiments which about three years ago I repeated in the dead-house of the Cook County Hospital, although the purpose I had in view at that time was a different one. These gentlemen injected, by means of fine canulæ, fluids, such as colored glue, into the periuterine tissues of puerperal and non-puerperal bodies. Koenig found (a) that fluids, injected in the region around the *fundus uteri* and uterine portion of the Fallopian tubes, first pass upwards into the iliac fossa to reach the crest of the ilium, then downwards towards Poupart's ligament, and finally into the *pelvis minor* or true pelvis; (b) fluids injected into the periuterine tissues in the neighborhood of the internal os first fill the extra-peritoneal connective tissue of the *pelvis minor*, then follow the round ligament as far as Poupart's ligament, and ascend in a backward direction into the iliac fossa; (c) that when the injection is made near the lower portion of the posterior surface of the uterus, the fluid first flows into the *cul-de-sac* of Douglas, and thence rises into the iliac fossa.

Schlesinger, although in the main agreeing with Koenig, differs with him in the following two points: He says, (a) when fluid is injected into the neighborhood of the *fundus uteri*, it first passes into the iliac fossa, but thence it does not descend into the true pelvis, as Koenig observed, but it ascends, running up the anterior abdominal wall; (b) from the broad ligament the fluid finds its way into the iliac fossa and thence upwards towards the kidney, running in the mesentery of either the ascending or descending colon. Schlesinger further makes the interesting statement that his pericervical injections filled the pericervical tissues, but that they never produced a tumor which could be felt above the *symphysis pubis*.

As far as my experience goes, the results of these experiments correspond well with the clinical facts. The puerperal abscesses which I have opened were situated, two over the crest of the ilium, one on Poupart's ligament, and one on the anterior abdominal wall, about three inches above the ligament.

As before mentioned, about three years ago I made similar experiments; the fluid I employed was milk. My object, at the time, was to ascertain the exact relative position of such an artificial exudate, representing an abscess, with regard to the anterior wall of the abdomen, especially of an exudate in one of the broad ligaments. I wanted to see for myself what difficulties I must be prepared to encounter in uniting the walls of a pelvic abscess, after having opened it, to the edges of the abdominal wound. As

might have been expected, I found the difficulties of the operation to vary partly with the size of the exudate and partly with the degree of tension of the abdominal parietes. On the whole, the matter seemed to me simpler than I had *a priori* imagined.

Whether, in cases of pelvic inflammations and abscesses, laparotomy should be done or not is a question of comparatively recent date, it being but little older than five years. As I have already said in my paper on "Periuterine Abscess," the operation is always to be regarded as a last resort, and should never be thought of in cases in which the abscess can with safety be reached in any other way, which, of course, excludes opening through the rectum. Lawson Tait,⁴ of Birmingham, and Martin, of Berlin, were the first who attempted to prevent the terrible contingencies of pelvic inflammations by attacking the disease at its original seat; Lawson Tait⁵ removed the suppurating uterine appendages, Martin⁶ operated for suppurating periuterine hematocoele. Tait operated for a suppurating hematoma of the right Fallopian tube (peritonitis) in 1878, and he removed both tubes for pyo-salpinx and an ovary for abscess in 1881. In 1881, Martin⁶ performed laparotomy in three cases of extra-peritoneal hematoma, *i. e.*, retro-uterine hematocoele. He opened the peritoneal cavity, incised the sac, and evacuated the blood and pus; he then drained into the vagina through the pouch of Douglas, and closed the opening he had made into the sac from the peritoneal cavity by sutures. In the discussion following the reading of Martin's paper, Kaltenbach opposed Martin's operation, and pleaded for an extra-peritoneal operation, reaching the abscess either from above Poupart's ligament, or, as Hegar recommended, from the ischio-rectal fossa. In 1880, Feldman,⁷ of Goettingen, published an operation for double pyo-salpinx. In 1882, Baumgaertner published a case of hematocoele in which Martin's operation had been successfully performed. These more or less sporadic operations called the attention of the profession to the subject, and already during the following year, 1883, upwards of fifty or sixty cases were reported, in which laparotomy was resorted to for the cure of pelvic inflammations. Aside from the forty-six cases which Lawson Tait published in his book, "Diseases of the Ovaries, he reported seven^{8, 9} more. T. Gaillard Thomas¹⁰ reported five cases; Zeiss,¹¹ Thornton,¹² Baer,¹³ and Prochownick,¹⁴ each one. In 1884, America was represented by fifteen cases: Stone,¹⁵ 1; Lee,¹⁶ 4; Lusk,¹⁷ 1; Martin,¹⁸ of Chicago, 1; Goodell,²⁰ 2; Jones,²¹ 1; Thomas,²² 1; Dawson,²³ 1; Polk,²⁴ 3. In England we have thirty-five cases: Tait,²⁵ 15, 7 of pelvic abscess; McDonald,²⁸ 2; Lediard,²⁹ 1; Chapman,³⁰ 1; Savage,²⁶ 9, 8 of pelvic peritonitis and 1 of hematocoele; Malin,²⁷ 7.

In Germany, twenty-two cases were reported: Martin,³¹ 8 of suppurating hematocoele; Gusserow,³² 7, in four of which the sac was stitched to the abdominal wound; Saenger,³³ 5; Schroeder,³⁴ 1; Quetsch,¹⁸ 1.

It is evident that the operation rapidly gained ground, and that laparotomy has come to occupy a prominent place in the treatment of pelvic inflammations and abscesses. It may be objected that as yet the indications for the operation are not as clearly defined as we might wish them to be; in answer to this, we can only say that the operation is new, and that we must consider the importance of the subject the guaranty of progress in the right direction.

I wish to add a few words about the subject, as it is modified,

in cases in which the periuterine abscess communicates with the rectum, or some other part of the intestines. My remarks will have reference to the discussion of my paper on "Chronic Periuterine Abscess," the discussion of to-night being but a continuation of that broken off at our recent meeting. My paper was read before this Society in May, 1885. I will refer as well to the discussion of Dr. H. T. Byford's paper on "Pelvic Abscess," read here December 18th, 1885.

When a communication exists between an abscess and the intestinal tract, evacuation of the pus into the bowel is sometimes followed by spontaneous recovery. As a rule, however, such a condition is extremely dangerous, for the abscess cavity is constantly being infected with septic material from the intestine. Péan, in his "Diagnostic et Traitement des Tumeurs de L'Abdomen et du Bassin," T. II, p. 155, writes that a periuterine abscess may open into the cecum, colon, or rectum; that if a periuterine abscess opens into the intestine, bladder, or uterus, septic infection will not fail to produce its symptoms, and may speedily prove fatal. This statement may be a little too broad. Schroeder, in his "Krankheiten der Weiblichen Geschlechtsorgane," Leipzig, 1880, says that when the abscess has broken into the gut or bladder, we have to deal with a grave condition, as it is difficult or impossible to reach the abscess from the vagina. At that time, in 1880, he had no thought of the practicability of laparotomy in such cases. When the abscess has evacuated itself into the rectum, he considers it less difficult to get access to it, and he advises cutting through the posterior *cul-de-sac* of the vagina, and dissecting upwards between the uterus and the rectum. Emmet³⁹ writes that when an abscess opens into the rectum, the case is very much complicated by septic infection through the feces. The quotations given are sufficient for us to conclude that, when there is communication between a periuterine abscess and the rectum, the patient is in great and constant danger of dying from septic infection, and that, therefore, an operation should be done if possible to provide free drainage of the abscess. In discussing my paper, Professor W. H. Byford said that he was opposed to the line of treatment suggested by me, *i. e.*, laparotomy; that the *sphincter ani* should be dilated or incised, the communication between the abscess cavity and rectum should be dilated with the finger, a steel dilator, or the knife, the cavity of the abscess scraped, washed out, and drainage effected *per rectum*.

Aside from the old, now justly abandoned, puncture of a retro-uterine abscess *per rectum*, Dr. Byford's method of attacking such an abscess is to me entirely new. I have nowhere, in the course of my reading, met with a similar suggestion. If the abscess communicates with the intestine at a point beyond the rectum, a rectal operation is of course out of the question. If the opening into the rectum lies three inches or more above the anus, dilatation is hardly practicable. Such openings are often narrow and tortuous, the neighboring organs are immovable, and even if we divide the sphincter and the retro-rectal tissues, we are obliged to work in the dark; for it is difficult or impossible to draw such an opening well down into view. The gentlemen present, who have extirpated a carcinoma of the rectum, will appreciate the difficulties of operating high up in the gut.

But above all, I must earnestly warn you against adopting Dr. Byford's plan of employing in this region a knife for the purpose

of dilating the opening of an abscess. Working here with a knife we always run the risk of opening the peritoneal cavity and of dividing large vessels which are found in the wall of the sac. As I once demonstrated in the walls of an abscess, situated in a broad ligament, the large uterine vessels may be found anywhere, and if wounded, it is next to impossible to ligature them securely.

In a relatively small number of cases the abscess breaks into the rectum near the anus; in these, dilatation may be tried, and it may even effect a cure, as we learn from Dr. H. T. Byford's case. However, we must have heard of more than one case before we can judge of the value of this method of treatment. Being somewhat enthusiastic over his rectal method, Dr. Byford disposes of laparotomy by saying, "The treatment by abdominal section cannot for a moment be entertained, for at least two reasons," of which the first one is that it is necessarily followed by a recto-abdominal fistula, which is incapable of being promptly cured, and is apt to become an unfailing source of systemic infection. Of the numerous examples we have, I need but mention the perityphlitic abscesses to show that an intestino-abdominal fistula does not contraindicate the evacuation of the abscess. We operate to save life, whatever may become of the fistula afterwards; besides, these fistulæ do frequently close. In the third case referred to in my paper, it closed in two months. The closure of a cecal fistula is a common occurrence. The explanation is not far to seek. Whenever an abscess breaks into the gut, the condition of the abscess necessitates such an outlet for the pus. When the abscess is drained through a counter-opening in the abdominal wall or the vagina, and thus transformed into a fistula, the necessity for emptying its contents into the bowel no longer exists, the opening has become useless, and it gradually contracts.

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DR. W. W. JAGGARD begged permission to submit an extract of a letter from Dr. Paul F. Mundé, received about the 15th of February. Dr. Mundé's large experience in the treatment of pelvic abscess was well known to the Fellows of the Society.

Dr. Mundé writes: "I do not agree with Prof. Byford's rectal treatment, as a rule, and certainly have not in my quite extensive experience found true laparotomy required to evacuate and drain a pelvic abscess. I mean opening the peritoneal cavity.

"Neither has my experience been that of Dr. Dudley, who says that the mortality, from abscess opening into the rectum, is great. I have seen only one case that I thought must die, in which there was a spontaneous rectal perforation."

DR. HENRY T. BYFORD.—A few years ago, Sir James Y. Simpson invented the operation of division of the cervix for uterine flexures. Almost all gynecologists began performing it, and in a short time had done more harm than good with it. Only a few years since, Dr. T. A. Emmet invented the operation of trachelorrhaphy.

While justly maintaining that it was an exceedingly valuable operation in proper cases, he has recently stated that it may have done more harm than good. A short time ago, Lawson Tait invented a method of treating pelvic abscess by laparotomy, and surgeons are resorting to it with a certain degree of success. The method is undoubtedly gaining favor, and bids fair to be employed with disastrous frequency, and possibly do more harm than good.

In endeavoring to fix the limits of the usefulness of laparotomy for pelvic abscess, we must go beyond the recorded experience of the laparotomists, for the records are not yet all in. I understand that Tait opens the abdominal cavity only in those cases which cannot be reached from below.

DR. FENGER remarked, parenthetically: He (Tait) does not operate

through the rectum. He performs laparotomy when he cannot open through the vagina.

DR. BYFORD, continuing.—Then we may say that abscesses like the one reported (which point above) should be opened by a simple incision, without entering the abdominal cavity; and those which point in the vagina should be opened and treated through the vagina. Now the question is: Should those which point in the rectum be opened and treated through the rectum? What I claim is, that the procedure has not been thoroughly tested by the profession. As has already been stated in this Society by Dr. Wm. H. Byford, we can, by thoroughly stretching the sphincter of the anus, get into almost any abscess which is truly pelvic in its nature, and points, or opens, in the lower four or five inches of the rectum. We can dilate the opening, and then enlarge it with the fingers, without the use of any cutting instruments, against which objection has just been made. The danger of hemorrhage from the wounding of blood-vessels is certainly very much less than the dangers in operating by laparotomy. There must be danger connected with any operation, but in the one I am speaking of it is reduced to the minimum. The entrance of fæces is of minor importance, for in the presence of perfect drainage and antiseptic irrigations they do not remain in the cavity, and do not prevent it from filling in with granulations from the top and sides, and contracting and healing. Therefore, dilatation *per rectum* should be first tried; and if any cases, after trial, cannot be thus successfully treated, laparotomy, or some other substitute, should be considered. Dr. Fenger quotes, and then criticises, my arguments against laparotomy, without mentioning that I was only referring to abscesses that could be reached through the rectum. With regard to recto-abdominal fistula, I must still maintain that the abscesses will close up and get well more readily with one opening into the rectum, properly made or enlarged, than if such a fistula exist in which the rectal outlet has not been enlarged. Gases and fæces will almost invariably pass through and keep the abdominal end of the fistula open, and will lodge in septic pockets, or sinuses, resulting from the inadequacy of the opening at the rectal end. If we close such a fistula above, we have the unfavorable conditions of the original abscess, and must still practise dilatation *per rectum*. Martin's method of instituting perfect drainage through the vagina, and then closing the abdominal opening, would undoubtedly be sound in principle, were it not that an operation through the vagina should take precedence, when practicable; and when not, a single opening from above must be regarded as fulfilling the requirements, as is proved by the experience of Tait and others. Hence, Martin's method must eventually be relegated to the exceptional procedures.

I do not wish the Society to understand that I do not believe in laparotomy for pelvic abscess, but that, being popular and new, it is apt to be resorted to unnecessarily and unjustifiably. The remarkable success of Tait should not be allowed to mislead us. His mastery of *technique* and fertility of resource in abdominal surgery justifies him in assuming risks which others may not.

DR. EDMUND ANDREWS.—It seems to me that the usefulness of the operation in proper cases is reasonably certain, but that we must be careful not to incur the risks of laparotomy when safer methods are available.

It will broaden our views somewhat if we recollect that an ab-

cess in the cellular tissue about the uterus does not differ materially in nature, principles of treatment, nor results, from abscesses in the cellular tissue in other parts of the pelvis and abdomen. One set of laws governs them all, both in pathology and treatment. A point to be remembered is, that many cases recover spontaneously in early stages, contrary to the statements of some eminent men. A professional gynecologist or surgeon, whose patients are attracted to him from long distances on account of his reputation, gets a class of cases because of their long standing and obstinate character. He has to combat the same tendency to error of judgment in one respect which besets the mind of a pathologist, whose conclusions are too exclusively drawn from the dead-house; that is to say, neither of them sees the numerous cases which recover under ordinary treatment, and therefore do not come before them. Recoveries from abscesses in the cellular tissue in all parts of the abdomen and pelvis are common, though they are apt to be very slow.

I recall two cases, attended by well-known physicians in this city, which recovered from such abscesses after suffering about a year. These abscesses discharged through the rectum. I have, perhaps, been somewhat slow in the treatment of these cases. For example, a retro-uterine abscess was brought to me from a distant State. It periodically discharged into the rectum above the reach of the finger. The patient arrived in Chicago in fair general health. Directly after her arrival, the discharges grew smaller in quantity, with longer intervals of time between, and she continued to progress in that way. Improving constantly in strength and activity, she began to make excursions and long visits to friends in neighboring States, and, in short, enjoyed life so thoroughly that I deemed laparotomy not justifiable so long as she progressed so well towards recovery without it. I presume she got tired of my dilatory plan. At any rate, after some months of improvement, she ceased to report herself for periodic examination, and I lost sight of the case. I have a case now on hand in a more debilitated condition. She is confined to her bed the greater part of the time. I expected to operate many weeks ago, but soon after I took charge of the case she showed signs of improvement, which led me to postpone the laparotomy to see what would occur. The discharges, which were from a point high up in the rectum, grew less in quantity and further apart in time. The temperature went down to the normal standard and remained there, the tumor about the uterus diminished in size, and nearly two months have now elapsed since the last small discharge of pus. The patient's vigor is slowly returning. Under such conditions, it is not certain that any pus cavity remains. I deem it my duty to wait until the presence of such a collection of pus is reasonably certain before subjecting the patient to the perils of laparotomy. Not long ago I had the opportunity to make a post-mortem examination in a case of circum-uterine abscess. The abscess had formed several years ago, after a difficult parturition. I saw the patient in consultation a few times during the last weeks of life. The pus was discharged partly by the rectum and partly through a fistula midway between the *symphysis pubis* and the umbilicus. She had been subjected twice to some surgical operation, whose exact nature I did not learn. The operations were not laparotomies. Having received no benefit, the patient was determined that no more surgery should be tried on her. After some weeks,

she died of asthenia, and I was allowed a limited autopsy. The fistula above the pubes, after passing through the integuments, led downward and to the right, and at a point which seemed to be the right external inguinal ring, it entered the inguinal canal, and followed the round ligament into the pelvis. Here it became more spacious, but exceedingly crooked and complicated, winding irregularly backward until it opened into the upper part of the rectum. All the viscera in the vicinity were glued together in a mass by old inflammatory deposits. There was no large abscess cavity at any one point, but still there was a flattened pocket, some three inches long and an inch or more in width, lying behind the rectum in the hollow of the sacrum. It contained a little pus and feces. This pocket might have been safely opened from below, working up outside the posterior surface of the rectum, had it been possible to ascertain its existence. I do not see how it could have been reached by laparotomy. The anterior fistula might have been benefited by freely slitting up the inguinal canal. I feel compelled to differ with my friend, Dr. Henry T. Byford, in one point. He suggests very naturally that Tait's operation, performed after the abscess cavity has opened into the rectum, would make a complete intestinal fistula, which it might be impossible to heal. This thought is natural, and I confess I would think the same thing myself had not an extensive observation upon the fecal fistulæ shown me the reverse. Experience teaches that an abscess cavity opening into an intestine, and filled with putrid pus and feces, is very reluctant to heal so long as it is not freely drained and disinfected; but if it is widely opened, so as to make and maintain the shortest and straightest possible route from the opening in the cut to the external air, and if it be kept well cleansed and disinfected, fresh granulations will spring up, the orifice will contract, and the fistula will heal, provided there is no stricture in the intestine below. This fact, or law, is very important, and applies equally to fecal and urinary fistulæ, as I have verified by an abundant experience. A striking case in point occurs to me at this moment. An eminent physician on the South Side requested me to take charge of one of his patients, a lady who seemed to have an anomalous hernia, and was sinking under a suppurative discharge from the bowels. On examination, I found her confined to bed, and rapidly approaching fatal exhaustion. There were several evacuations daily of mingled pus and feces from the rectum. The left hip was found prominent over the whole gluteal region. The tumor fluctuated on palpation, was resonant on percussion, and gave a succussion on coughing. At times, it gurgled under pressure. I opened it very slowly and carefully, fearing to find an intestine there. After passing through the atrophied *gluteus maximus*, I entered a broad cavity, containing neither intestine nor omentum, but filled with pus and feces. This cavity being emptied and washed out, was easily traced up to the sciatic notch, where it entered the pelvis by an orifice of moderate size. I now ripped the cavity open for nearly its whole length, and kept it cleansed. Vigorous granulations sprang up at once, and the sac healed up rapidly and permanently. The patient seemed relieved of a great depressing influence, and rebounded at once towards health. She became plump and rosy, and rapidly regained her full strength.

DR. F. E. WAXHAM presented for examination a

FEEDING BOTTLE FOR USE IN CASES OF INTUBATION OF THE
LARYNX.

The feeding bottle consists of an ordinary nursing flask, with a rubber cork, with a small vent, through which a tube passes to the bottom of the bottle. To this tube is attached another leading to the bulb of a Davidson's syringe, and this in turn is attached to a small-sized esophageal tube. In using this apparatus, the gag is placed between the jaws, the tube introduced into the esophagus, and the contents of the bottle quickly introduced by means of the bulb.

Many patients, especially young infants, do not take sufficient nourishment after intubation has been performed, on account of the coughing produced by the trickling of the liquid into the trachea. This apparatus obviates this difficulty.

TRANSACTIONS OF THE OBSTETRICAL
SOCIETY OF LONDON.

Meeting of Wednesday, March 3d.

DR. POTTER, *President, in the Chair.*

The following specimens were shown:

1. Tubercular disease of the Fallopian Tubes, by Dr. W. S. A. Griffith.
2. Pellets of Corrosive Sublimite, by Dr. Champneys, for Dr. Ely Smith.
3. Cancerous Uterus Extirpated by the Vagina, by Dr. Lewers.
4. A Calculating Ruler for fixing the precise date of labor, by Dr. Playfair.
5. A Double Monster of the Syncephalic Cyclops Variety, by Dr. Godson.

DR. BARBOUR, of Edinburgh, showed a most interesting series of frozen sections, drawings, and diagrams, illustrating the anatomy of the first stage of labor, of the third stage of labor from four cases of Porro's operation, and of the condition at the close of labor from two cases of death *post partum*. He drew attention to the value of frozen sections, but said that allowance must be made for post-mortem changes and to those due to the posture in which the cadaver was frozen. The points of chief interest in the first group were the remarkable thickness of the lower segment of the uterus, the course of the ureters, and the disposition of the peritoneum and cellular tissue. The Porro preparations showed the contraction of the uterine wall and diminished area. The

membranes are crumpled and partially detached, but the placenta is not separated. The placental site may therefore be diminished without the placenta being separated. He concluded that it was separated by detrusion. The absence of space into which it could bulge, the absence of hemorrhage between the placenta and uterine wall are against the mode of separation described by Baudeloque, Schultze, and Ahlfeld. These sections bore out the description of the method of expulsion so lucidly described years ago by Dr. Matthews Duncan.

The chief point of interest demonstrated by the third group was the large amount of cellular tissue between the cervix and bladder.

DR. MATTHEWS DUNCAN was astonished at the amount of good and original work which Dr. Barbour had laid before the Society. He referred to the length of time which had elapsed since William Hunter published his work on the gravid uterus which was supposed to finish the subject. Frozen sections or homolographic anatomy had since done much to increase our knowledge, and now Dr. Barbour had passed from the anatomy of pregnancy to the anatomy of labor, a new field. Frozen sections could not be entirely depended upon to display the conditions during life, but they were of great value. Braune's plate of the anatomy of the second stage was of great value, but was notably misleading in some points, such as the position of the bowels, uterus, and peritoneum. Similar errors had been referred to by Dr. Barbour in his own sections.

Dr. Duncan was reluctant to adopt Barbour's theory of the detrusion of the placenta. He had a strong liking for the shrinking site theory, because it combined separation and arrest of hemorrhage. Everything connected with flooding was of great importance and therefore he hoped to see Dr. Barbour's views thoroughly sifted. One great fact he had given, that with the site reduced to four inches in diameter, the placenta might remain attached.

DR. CHAMPNEYS, while greatly admiring Dr. Barbour's work and beautiful specimens, dissented from some of the conclusions drawn from the Porro specimens. Illustrations drawn from them as to the physiology of the third stage of labor could only be accepted when consonant with its clinical course. The flattened form of the uterus with the entirely adherent placenta seen in these preparations was contrary to the condition observed in nature, and where women had been examined by the introduction of the whole hand immediately after the birth of the child, the placenta had been found entirely detached. Again, he could not agree with Dr. Barbour that these preparations prove that at the beginning of the third stage of labor there is no uterine cavity; its shape proves that it does not alone contain the placenta lying flat against the uterine walls as do these preparations. Lemser advocated the "detrusion" theory from experiments on pregnant rabbits, but it must be accepted with caution, as the similarity between them and the human female is only slight. Dr. Barbour did not appear to rest on Lemser's observations, but arrived at his conclusions by a process of elimination of the other theories. The mode in which the placenta presents at the os uteri is an indispensable test as to the correctness of views as to its mode of separation.

The President tendered the thanks of the Society to Dr. Barbour for his demonstration, and they were very cordially given, and Dr. Barbour replied.

A paper by DR. LEWERS, describing

A CASE OF CIRCUMSCRIBED SARCOMA OF THE VAGINA AND UTERUS
was then read.

The patient was a married woman of 50, had eight children, and was admitted into the London Hospital on June 27th, 1885. She had had three attacks of flooding, unattended by pain, but each followed by fainting and vomiting; was losing flesh and had had a dirty-colored vaginal discharge. A lump now protruded from the vulva. She had had an attack of flooding nine years ago, then was regular for six years, and had another attack. The mass, on examination, was seen to be tri-lobed, and it was attached to the posterior vaginal wall by a broad pedicle. There was a second mass on the right side as large as a walnut. The uterus felt heavy, but was mobile. The growths were removed on July 2d, and the patient died of septicemia on the 7th.

At the post-mortem three circumscribed growths were found in the liver and there were numerous small secondary growths in both lungs, but none elsewhere. Microscopic examination showed the growths to be mixed, round, and spindle-cell sarcomata. Dr. Lewers thought that the uterine growths were probably the primary ones. There were no lung symptoms during life.

DR. GERVIS gave details of a case of vaginal sarcoma upon which he had operated three times at lessening intervals and which now again required operation. It was a small round-celled sarcoma.

DR. W. DUNCAN was doubtful whether cases of sarcoma of the uterus and vagina should be operated on at all, as a radical cure was improbable.

DR. M. HANDFIELD JONES mentioned the case of a girl of 16, upon whom he had operated a year ago, who still remained in good health. He thought if the growths were removed early enough, there was a reasonable prospect that they would not recur.

MR. KNOWSLEY THORNTON pointed out that it was often necessary to operate for the comfort of the patient, and could not think that the chance of recurrence was a ground for leaving the patient in misery, and each operation would give her, at any rate, a period of health and hope. The recurrence at lessening intervals was familiar to surgeons in all sarcomata, and hence the old name given by Sir James Paget to these growths, "recurrent fibroid."

DR. ROUTH advocated the removal of these growths and the destruction of their site with strong caustic, such as nitric acid and bromine. He mentioned a case in which, after a third operation, there was no recurrence.

At the close of the meeting the President announced that in future the Transactions would be published in monthly or bi-monthly parts, but those Fellows who preferred it, could still have the Volume sent to them as heretofore, at the end of the session.

REVIEWS.

A CONSIDERATION OF DR. GOODELL'S STATISTICS OF ABDOMINAL SECTION. By JOSEPH PRICE, M.D., Philadelphia, Pa.

The fallacy that figures are always correct can nowhere be better illustrated than in the statistics of ovariectomy given in the article on that subject in Pepper's "Practice of Medicine," Vol. IV.

Appearing as it does in the latest American work on medical science, it were not too much to expect that, in every particular, it would be found thoroughly correct, full, and authoritative. How far it is entitled to be so considered it is the aim of the present inquiry to determine.

On page 314 of the volume above named, is given the statistics of the operation up to January, 1883. Why a writer should allow the statistics of the three years intervening between this date and the period of the publication of his article to pass without notice is beyond understanding. The table referred to is as follows:

	Cases.	Recovered.	Died.	Mortality %.
Clay.....	93	64	29	31.11
Spencer Wells..	1,088	847	241	22.15
Keith.....	381	340	41	10.76
K. Thornton...	328	293	35	10.67
Tait.....	226	199	27	11.94

Without analyzing the table in detail, it is to be remarked that the figures given in the case of Clay are terribly deficient. The statistics of his operations, as given by Mr. Lawson Tait, are 395 abdominal sections with 101 deaths, thus giving an average mortality of 25.5 per cent, or a figure too high according to Dr. Goodell's table, by 6.6 per cent, had the record been brought to as late a date as possible. In the case of Tait, reference is made to the mortality of his last 313 cases as published in the *New York Medical Record* of January 3d, 1885.

In this same number of the journal is the record of 1,000 consecutive cases of abdominal section with 93 deaths, reported by Mr. Tait, thus making an average mortality of 9.3 per cent up to that time. Instead of thus reporting it, Dr. Goodell has chosen for some reason, whatever it may be, to bring his statistics up only to the date as stated above. Further, the remarkable series of operations, 112 in number, reported in the *Medical News* of September 12th, 1885, is passed over without the slightest mention, notwithstanding the fact that not a single death occurred in it. If these 112 cases be added to the 1,000 already reported, Tait's record up to the date of his last report is 1,112 cases with 93 deaths, or a percentage of 8.36 per cent, in contrast with that stated in the table under examination, as being 11.94 per cent. The difference in the percentage, it will be seen, is one of 3.58 per cent, and certainly worthy of record.

Keith's record also suffers by being terminated so far back as the end of 1882, as then, in Dr. Goodell's table, it had a mortality of 10.67 per cent, whereas on December 17th, 1884, it shows a percentage of 9.11, 490 cases having been operated upon with 45 deaths.

A further error is made in reference to Keith's success in the statement that he "lately has had a series of 100 cases, with 97 recoveries."

Mr. Keith himself distinctly says: "98 of my last 100 cautery operations have recovered, and in one of the two fatal cases, the tumor was malignant, with cancerous matter in the pelvis, practically an incomplete operation."

An error of like nature is made also in the following statement. Discussing the use of Listerism in the operation of ovariectomy, Dr. Goodell says: "Tait, of Birmingham, and Keith, of Edinburgh, each with a recent mortality of only 3 per cent, have abandoned the spray."

Tait's own record is: "Just as this is written I have completed a series of a hundred cases performed without any of Mr. Lister's so-called antiseptic processes, and in all of which the pedicle was treated with the Staffordshire knot. Only two of these 100 cases have proved fatal," etc. (*Dis. of Ovaries*, p. 249).

In each instance an error is made by which one death too many is attributed to both Keith and Tait.

The omissions, in the article under notice, are also as unfortunate as the errors. No reference is made to the fact that the younger Keith performed 37 ovariectomies with only one death; none that Sir Spencer Wells, to the end of 1884, in private practice only, had a series of 247 cases with only 27 deaths, being in the series an average mortality of only 10.9 per cent. Schroeder's cases are carried only to the third hundred, an error moreover entering into the estimate of this third hundred, which should be recorded as containing 7 instead of 8 deaths. Schroeder's cases, it may be remarked, are recorded up to November 30th, 1884, and are in number, 514. In 500 cases his mortality is 13 per cent. In his fourth and fifth hundreds, the mortality was respectively 16 and 7. Nussbaum's cases, altogether omitted, are, up to November, 1884, 415 in number.

In his last 115 cases there was a mortality of 8.69 per cent. The mortality in all of his operations at the date given above, was 21.4 per cent.

Professor Olshausen's cases, also omitted, were reported December 26th, 1884, as being 270 in number. Of these 28 died. Of his last hundred, but four cases proved fatal.

Professor Billroth's cases, also omitted, number 327 operations with 101 deaths, the average mortality being 31.5 per cent. This list was completed early in 1885, and includes all his cases to the end of December, 1884.

Possibly the most remarkable list of operations on record in the field of abdominal surgery—that of the elder Keith—comprising 38 consecutive hysterectomies with three deaths, is passed unnoticed.

The data concerning the results of all Italian operators, collected by Peruzzi, is also incomplete, being brought by him as far as the fifth hundred, while from Dr. Goodell's statement it would seem that, at the given date, June, 1884, only the third hundred had been reached. The results, as given by Peruzzi, for the fourth and fifth hundreds, respectively, are 26 and 23 deaths. Moreover, Spencer Wells gives the results of the same authority in the first 100 cases, as 37 recoveries to 63 deaths, thus making the mortality of this series 2 per cent greater than that given by Dr. Goodell.

A little variety in error, however, as in other matters, savors of spice.

Statistically, Dr. Goodell's discussion is woefully deficient, its only fulness being that of error. It is certainly a matter of regret and disappointment that its data were not brought up to at least a near remoteness. If that were impossible, wherefore fail in accuracy?

1317 SPRING GARDEN ST., PHILADELPHIA.

DISEASES OF THE OVARIES AND OVIDUCTS. By WM. GOODELL, M.D.
Pp. 155. A chapter from Pepper's "System of Medicine," Vol. IV.

Clear, concise, correct, embodying in the plainest language—simplicity is a beauty—those facts which are most necessary and valuable, and omitting all superfluous matter, it is difficult—considering that it is a part of a whole which is written, not for the pathologist or the specialist in ovarian diseases, but for the general mass of the profession—to say where it could be changed for the better.

A lapse is made on the first page in speaking of the function of the ovaries as "that of *secreting* the Graafian follicles," *developing* being evidently the word that was meant.

Chronic oöphoritis, its diagnosis and treatment, a subject about which the average medical man has a rather misty conception, is described most clearly and succinctly.

In discussing Battey's operation, the author, as do most advanced gynecologists of the present era, condemns the vaginal section, for the reasons that by this method adherent ovaries cannot be safely dislodged or often even reached, the vaginal wound is difficult to dress antiseptically, and the abdominal "incision is more simple and less dangerous."

Cysts of the parovarium, of the tubes, of the hydatid of Morgagni are next described, then the solid and the cystic tumors of the ovary and their surgical treatment.

Exploratory puncture with a hypodermic needle is considered very bad practice and is condemned, this and the microscope being scarcely at all considered as a means of differentiating, by examination of the contents, the various forms of cystomata. While I will admit that puncture, even with the finest needle, may be dangerous, yet there are cases, as in suspected malignancy, where it and the microscope would be invaluable, and I should have liked to have seen a fuller exposition of this method of diagnosis.

Palliative treatment of ovarian tumors by tapping in any of its forms is condemned, and rightly so, except to convince a woman of the futility of the trocar; or it may be tried *once* in a thin-walled, flaccid, slow-growing monocyst; or where a cyst develops during pregnancy or complicates labor; or as a preliminary to ovariectomy where the cyst is excessively large; or where the radical operation is deemed impracticable.

The statistics of ovariectomy which Dr. Goodell gives need no mention, having already been discussed *pro* and *con*. The author does not accept the views of some recent writers upon early operation, believing that in most cases late removal gives the best results.

The indications for ovariectomy, the preparatory treatment, the procedure itself, and the after-treatment are handled as are the other subjects of the chapter, clearly and well.

The author believes in drainage when any material from a purulent or colloid cyst has escaped into the abdominal cavity; when the cyst contents are putrid, and septic symptoms or peritonitis are present; when a large amount of ascitic fluid is found; when four drachms or more of blood or sero-sanguinolent fluid can be squeezed from the last sponge removed from Douglas' pouch before the closure of the wound, and "when in doubt as to what to do."

In cases where the question arises we are advised, provided it brings no additional risk, to remove the second ovary where there has been sterility, where there is malignant degeneration of one ovary, and when the menopause is near or passed, also when a fibroid is present or it is desired to hasten the climacteric. Following and qualifying this is the concluding sentence—it should be impressed on the mind of every surgeon—in the prime of menstrual life the sound ovary should be left untouched unless there exist grave reasons for its removal.

BROOKS H. WELLS.

CORRESPONDENCE.

A REPLY TO DR. PRICE'S "CONSIDERATION OF DR. GOODELL'S STATISTICS OF ABDOMINAL SECTION."

EDITOR OF THE AMERICAN JOURNAL OF OBSTETRICS.

DEAR SIR:—I admit that the reviewer of the statistics in my article on Ovariectomy has some grounds for legitimate criticism, but none for the ungracious manner in which he makes it. I am also willing to admit that a less busy man than myself would have compiled these statistics better, although, as I expect shortly to show, my reviewer would hardly have been the proper person for this purpose. But I am not wholly without excuse; for, in the first place, I was limited in my article as to space, and I therefore gave what seemed to me statistical research enough to establish the point proposed—viz., that the fatality in ovariectomy lessens in proportion to the increase of the operator's experience. In the second place, had my critic ever been invited, as I hope he will be some day, to write an article for so large a work as Dr. Pepper's *System of Medicine*, he would have known that the author parts with his manuscript many months before the work is published. When the "proof" came to me, I was so run down by overwork, having indeed to leave home for my health, that I corrected it perfunctorily, being too worn out to make any additions to it. I am, indeed, not sure that I had then read of Mr. Tait's phenomenal series of one hundred and twelve

cases of ovariectomy without a death, for my medical journals had accumulated for several months without being unwrapped. But why, let me ask while on this subject, did my reviewer neglect to mention Tait's later series of one hundred and thirty-two cases without a death, which were reported only two months later? (*British Medical Journal*, November 14th, 1885, p. 937.) If I am to be called to account for omissions, why should not he?

Concerning other statistics in my article, let me call your attention, Mr. Editor, to the fact that I have, in every instance but one, given full references to my authorities, and if my figures are wrong, my authorities are in error. This is more than Dr. Price has done, and this grave omission, especially grave when he wishes to prove my incompetency, makes most of his statistics valueless to any one who would like to utilize them.

With all deference to my reviewer's superior accuracy, I hold that I am right in attributing to Tait and to Keith, at the time specified, a mortality each of three per cent in their ovariectomies, and not two per cent as he contends. The former says (*AMERICAN JOURNAL OF OBSTETRICS*, Vol. XV., p. 547), "The mortality of Dr. Keith's practice and my own is now as low as three per cent." Further, I am the more willing to admit the unsupported statement of my reviewer, for he, as usual, gives no references, that "Keith himself distinctly says, 'ninety-eight of my last one hundred *cautery* operations have recovered,'" because, elsewhere, and even so far back as four years ago, Keith makes the statement which my reviewer, so jealous of Keith's reputation, has most carelessly omitted to mention: "Of my last *one hundred and twenty cautery* cases, there were only two deaths." (*Ovarian and Uterine Tumors*, by Sir Spencer Wells, Am. ed., 1882, p. 224.) But Dr. Keith does not use the *cautery* in every case of ovariectomy, for in many cases he cannot use it; and I, on the other hand, was recording not his "last one hundred *cautery* operations," but his *last hundred* operations. So, unless my critic can furnish better evidence, and fortified by available references, I shall not yield my statement, backed as it is by Tait, that Keith lost three cases out of his last one hundred, at the time specified.

With regard to Peruzzi's Italian statistics of ovariectomy, I am right, and my reviewer is wrong, if my authority quotes correctly. The Italian surgeons lost sixty-one cases out of their first one hundred; and not sixty-three (*British Medical Journal*, September 16th, 1882, p. 528, from *Raccoglitori Medico*, July 20th).

Let me also, Mr. Editor, respectfully submit that I was not

writing an article on "*Abdominal Section*" but on *Ovariectomy*, and ovariectomy alone. Why then does my reviewer berate me, imputing even unworthy motives to me for not referring to Tait's "record of one thousand consecutive cases of abdominal section," or to Clay's "three hundred and ninety-five cases of abdominal section," in which he says I am so "terribly deficient?" Must I explain to him that an ovariectomy is always an ovariectomy, and that an abdominal section is not always an ovariectomy, but it may mean an exploratory incision, a hysterectomy, a nephrotomy, a Cæsarean section, and many other operations beside an ovariectomy? Even the very title of his review is an inexcusable misstatement. He heads it "A Consideration of Dr. Goodell's Statistics of Abdominal Section," when I have not given, or attempted to give, a single statistic of *abdominal section*, for the simple reason that it is wholly foreign to an article on *ovariotomy*.

Now at this point let me show, to use the language of my reviewer, that "the fallacy that figures are always correct can nowhere be better illustrated than in the statistics given" by Dr. Price himself, appearing as they do in the very criticism on my alleged inaccuracy and incompetency. Tait, it is true, had one thousand cases of *abdominal section*—not of ovariectomy—with a mortality of 93 cases (The New York *Medical Record*, January 3d, 1885). They consisted of 405 cases of removal of ovarian and parovarian cysts with a mortality of 8.1 per cent, and of 595 cases of other abdominal sections, such as 94 of exploratory incision, 54 of hysterectomy, 30 of pelvic abscess, and numerous other kinds of abdominal section. But we are, I protest, not discussing *abdominal sections*, but *ovariotomies*; yet not only does my reviewer roundly abuse me for not giving these statistics, but, to use his language, he "has chosen for some reason, whatever it may be," to add Tait's 112 successful cases of *ovariotomy* to his 1,000 cases of *abdominal section*, making out for him, as my reviewer censoriously adds, "a percentage of 8.36. per cent, in contrast with that stated in the [my] table under examination as being 11.94 per cent. The difference in the percentage, it will be seen, is one of 3.58 per cent, and certainly worthy of record."

A writer who attacks another for his alleged inaccuracy should himself be scrupulously accurate; but what are the real facts here? Tait's mortality in his 405 cases of cystomata at the date given was only 8.1%, and not 9.3%, as the reader might readily infer from my reviewer's very careless language, and still more

careless ciphering. And to these 405 cases of ovariectomy, and not to the 1,000 cases of abdominal section, should have been added the 112 cases of successful ovariectomy, provided some of them are not already included in the 405 cases. For Tait's series of one thousand cases of abdominal section seems (he gives no dates) to have been brought up to December, 1884, while "the time occupied by the performance of the series" of one hundred and twelve ovariectomies extended "from the 1st January, 1884, to the 7th August, 1885" (*Medical News*, September 12th, 1885, p. 284)—that is to say, as I understand it, those of the 112 ovariectomies performed during the first eleven months of 1884 have been already included in the one thousand cases of abdominal section. At any rate, the addition of the 112 ovariectomies to the one thousand cases of abdominal section constitutes a very gross statistical blunder on my reviewer's part. But I have not yet done with it; for, granting that we are now discussing abdominal section and not ovariectomy, I demand from him his proofs that the *only abdominal sections* that Tait performed from January 1st, 1884, to August 7th, 1885, were the foregoing 112 successful ovariectomies. I further demand from him, by whose authority and by what right he adds them to the foregoing 1,000 cases of abdominal section; and what proof he has, that some of them, if not most of them, have not already been included by Tait in the series of one thousand cases? Also why, when about it, he did not add Tait's 132 successful ovariectomies instead of the 112?

But I have not yet done with his misstatements and inaccuracies. In his analysis of Clay's cases, he attacks my statements in such a way that both his logic and his arithmetic are at fault. Quoting from a letter of J. Knowsley Thornton (*Medical News*, January 27th, 1883, p. 117), I showed that Clay, out of his 93 cases of ovariectomy, lost 31.11 per cent. My reviewer contends that Clay had "395 abdominal sections" with a loss of only 25.5 per cent, "or a figure too high, according to Dr. Goodell's table, by 6.6 per cent. To this I reply: in the first place, that it is unfair, as well as illogical, for him to compare the statistics of ovariectomy with those of abdominal section—a subject which we are not discussing; and, in the second place, that 25.5 subtracted from 31.11 leaves 5.61, and not 6.6 as he asserts. Surely, one who assails another's accuracy in statistics should display better logic and better arithmetic.

He says of me: "No reference is made to the fact that the younger Keith performed 37 ovariectomies with only one death."

while the fact is, that six months ago Keith reported 44 cases with but one death; for in his table of 50 cases, "Nos. 18 and 45 died" (*British Medical Journal*, October 31st, 1885, p. 829). But why should I have given the "younger Keith's" statistics, when, as he himself frankly owns, "that my deaths have been few, I attribute mainly to the fact that I have had the assistance and advice of Dr. Keith (the elder) in the cases"—a personal equation which cannot be eliminated.

He finds fault with me for attributing eight deaths instead of seven to Schroeder's third hundred cases of ovariectomy. But if he had taken the trouble to go to the source of my information (*Maryland Medical Journal*, July, 1882, p. 110, from *Berliner Klinische Wochenschrift*, April 17th, 1882), he would have seen my reasons. Schroeder's words are: "In my third hundred I had seven deaths, *if* I leave out of account a case of myxoma of the left ovary and peritoneum, in which death ensued after a successfully endured operation, from failure of the vital forces in consequence of progressive new-formation of peritoneum." He then enumerates the *eight*, not seven, deaths as follows: four from septic peritonitis, three suddenly from obscure causes, and the *eighth* a "patient in whom the irremovable part of the cyst had been sewed up, succumbed in the sixth week of her confinement." Why the eighth case should be excluded from the list of deaths, because the cyst was malignant and the operation incomplete, I cannot see; nor could my reviewer, I am sure, were this fatal case mine instead of Schroeder's.

Again, to use the language of my reviewer, which I have found extremely useful to me in this discussion, "the omissions in the article under notice are also as unfortunate as the errors." He gives, it is true, the statistics of Olshausen, of Billroth, of Nussbaum, and of Peruzzi. He gives the later statistics of Wells and of Schroeder, and also, to eke them out, appends, whatever that may have to do with the subject of ovariectomy, the marvellously good, but also marvellously irrelevant, statistics of the elder Keith in hysterectomy. But why, when taking me to task for my omissions, does he neglect to note the excellent results of A. Martin, of Berlin, and the statistics of French and American ovariectomists, some of whom show splendid records? Let me answer this question. The whole stock in trade of my reviewer consists solely of Spencer Wells's last work on "The Diagnosis and Treatment of Abdominal Tumors," which was published in England in the spring of 1885, and republished in this country in the following summer. In this book are not to be found the statis-

tics omitted by my reviewer, but from this book he has taken bodily, and without acknowledgment, all his telling statistics, even Peruzzi's and "the younger Keith's thirty-seven ovarioto-mies"—statistics which, being embodied in personal communications to the distinguished author, appear nowhere else. This work I did not see until too late. Yet the lumped ovarian statistics of personal communications, however recent, cannot have the same weight as the older statistics, which I have given in my article, and which originally published every clue to the identity of the patient.

In conclusion, Mr. Editor, when a critic, who questions the accuracy and fulness of another's statistics of ovariectomy, himself fails to understand the difference between an ovariectomy and an abdominal section, mixing up inextricably the statistics of each; when hardly a paragraph in his criticism does not contain an error, the very title of it embodying a misstatement; when he mistakes "the last one hundred *cautery* operations" of a distinguished ovariectomist for his *last* one hundred operations, and lugs in as a make-weight thirty-eight irrelevant hysterectomies; when he has neglected to bring up one of his data to "at least a near remoteness" of time; when he "has chosen for some reason, whatever it may be," to ignore all record of the statistics of French and American ovariectomists; when he cannot do even a simple sum in subtraction correctly; when, in one word, he has, in a very brief criticism demanding the utmost painstaking care, displayed gross inaccuracy, flagrant omissions, and careless misstatement—am I not right in repeating what I stated at the outset of this letter, that, while a less busy man than myself would have compiled these statistics better, Dr. Price would hardly have been the proper person for this purpose?

Yours very truly,

WM. GOODELL, M.D.

AN ANSWER TO DR. PRICE'S CRITICISM ON "THE SO-CALLED MODIFICATION OF EMMET'S OPERATION."

TO THE EDITOR OF THE AMERICAN JOURNAL OF OBSTETRICS.

SIR:—I was one of a large number to read with surprise the criticism in your May number on Dr. E. C. Dudley's description of Emmet's new perineum operation. It seemed improbable that Dr. Dudley, having once been Emmet's assistant, could commit such grave errors in the technique of one of Emmet's operations

as his critic would have appear; but in order to place the matter beyond all question, I addressed a letter of inquiry to Dr. A. McLaren, of St. Paul, a recent graduate of the Woman's Hospital in the State of New York, where he has had the opportunity of assisting Dr. Emmet in all his operations during a greater part of the last two years. Dr. McLaren promptly sent the following reply, which he kindly permits me to publish.

ST. PAUL, May 19th, 1886.

Dr. W. H. Marble, Mercy Hospital, Chicago, Ill.

MY DEAR DOCTOR:—In answer to yours of the 15th, I would say that to my mind the cause for Dr. Price's rather harsh criticism lies in the different methods by which Dr. Emmet accomplishes the same object while operating for the restoration of the female perineum. His usual method is, as Dr. Dudley describes, to denude a triangular surface, the base line being formed by drawing tense the tissues between the crest of the rectocele and the lowest caruncle upon one side, with its apex at the posterior commissure. The traction which has been exerted upon the base of this triangle will draw down the mucous membrane and underlying fasciæ, so that when the denudation is carried straight across, and the line then relaxed, a second triangular surface will be formed, with its apex lying in the sulcus at the point where Dr. Dudley places his middle tenaculum, just before setting his sutures. This is Dr. Emmet's usual method of operating. Bearing upon this point, Dr. Emmet says: "The most common mistake is taking up too much of the posterior wall;"¹ and I have often heard him say that one of the most common errors was too high a denudation into the sulci. Dr. Emmet occasionally carries his denudation a little higher into the sulcus than the ordinary operation requires, but only in those cases exhibiting great relaxation. Probably Dr. Price saw Dr. Emmet perform such an operation. Nor is Dr. Price's second point well taken, for if the deep perineal sutures tended "to defeat the result otherwise attained by the vaginal sutures" in this operation, we can readily see that the same objection could be raised to Dr. Emmet's method of restoring a complete perineal rupture, where those sutures entered upon the skin and those entered upon the vaginal surfaces of the perineum interlace. If in either operation the sutures be drawn tight enough to counteract each other, they would surely cut through the tissues, the object of all these sutures should be to act as splints keeping freshly denuded surfaces in perfect apposition. The fault for which Dr. Dudley recommends these deep sutures was noticeable while I was in the Woman's Hospital, a small perineal fistula and incomplete union at the hymeneal line being occasionally seen. Just before the publication of Dr. Dudley's article, I made use of a couple of deep silver sutures in place of the superficial silk or catgut formerly used, and certainly think that they add to the com-

¹ Am. 3d Edit.

pleteness of the operation. I am told that Dr. Emmet has made use of silver sutures in this same way during this past winter.

I consider that Dr. Dudley's article is a very valuable addition to the literature of this most valuable operation.

I am sure that Dr. Price would never have taken it upon himself to criticise Dr. Dudley's article so severely if he had remembered that "when a gentleman deems his knowledge of any particular subject sufficient to justify him in appearing in the world of letters as instructor of his professional brethren, he should have care that his teachings are true, *and, above all, fair.*"

Very truly yours, A. McLAREN.

To the clear statement of Dr. McLaren I may add the following: By his implication that deep sutures are not needed to obviate the occasional non-union at the posterior commissure, the critic places himself at variance, not only with Dr. Dudley, but with the operators at the Woman's Hospital and with Dr. McLaren. His further remark, that their use "is Emmet's own idea, and not Dr. Dudley's," is ungraceful, inasmuch as Dr. Dudley has made no claim to originality in the matter of deep perineal sutures; he simply stated that he had sought to obviate a difficulty by applying them in the new operation in place of the more superficial ones described by Dr. Emmet, which, to my personal knowledge, he did nearly two years ago, and has continued to do ever since with perfect results, at least in about one hundred of his operations which I myself have observed. Against the critic's reasoning, therefore, that the deep external sutures are useless, and that they would antagonize the vaginal sutures, I place a fact supported by observation of a hundred cases, that no such antagonism exists outside the imagination. Dr. McLaren also clearly shows that their necessity has been appreciated even at the Woman's Hospital.

Reference to page 391 of Emmet's "Principles and Practice of Gynecology" would perhaps correct a seeming misapprehension into which the critic has fallen, relative to the extent of tissue denuded in the sulci by Emmet in his new operation. So far as the vaginal surface is concerned, he will there learn that the same denudation is made as in the old trefoil operation. It is the line of union which is crescentic, and not, as many suppose, the denuded surface.

Dr. Dudley's recommendation to denude a further triangle on each side, the base of which corresponds to the line drawn taut with the tenacula between the crest of the rectocele and the caruncle, contemplates a more extensive denudation into the sulci than would be warranted by Emmet's description of the operation. Indeed, such denudation is even condemned by Emmet

himself, nor is it ever permissible except in cases of extreme relaxation of the vagina, or, more comprehensively speaking, relaxation of the pelvic floor, and for such cases only Dr. Dudley proposed it. The critic's idea that this additional denudation, designed only for exceptional cases, is a part of Emmet's operation proper, is therefore intolerable.

The article in Pepper's System contains three cuts which the critic has strangely introduced in their inverse order, and he has rendered them further unintelligible by omitting the explanatory text which, in connection with the cuts, was intended to show the action of the sutures and to indicate the manner of their introduction; but such an omission is in harmony with the critic's remark on that point that "an engraving alone affords all the information relative to the manner in which the sutures are to be introduced."

Reference to Emmet's chapters in the last edition of his "Principles and Practice of Gynecology" on the old and new operations, and to the article in Pepper's System, will show that Dr. Dudley has correctly and with the fullest appreciation described this important operation, and that if there has been "error," it is not his; if there has been "unfairness," it is not his; if there has been a "brain-born dream of evil," it is not his.

WALTER H. MARBLE.

MERCY HOSPITAL, CHICAGO, May 26th, 1886.

ABSTRACTS.

1. Plenio: A Case of Traumatic Rupture of the Gravid Uterus. Laparotomy. Recovery (*Centralblatt f. Gyn.*, No. 47, 1885).—A. K., æt. 19, at the beginning of eighth month of pregnancy fell backwards from a high wagon, striking on the back and shoulder; complained of intense abdominal pain, and lost consciousness for a few minutes. There was neither hemorrhage nor loss of *liquor amnii*, the only symptom on entrance into hospital being pain in abdomen and over the scapulæ. On examination, fetal parts were detected in the abdominal cavity above the contracted uterus. Auscultation as regards the fetal heart was negative. There were a few clots in the vagina, the cervix admitting the finger. The diagnosis was rupture of the uterus with escape of fetus into abdominal cavity. Laparotomy was decided upon. Under antiseptic precautions the usual incision was made. The uterus was found contracted, the rupture site being in the mid-line, the fetus lying transversely in abdominal cavity, the placenta within uterus. No *liquor amnii*, and but little blood in abdominal cavity. Fetus readily removed, uterus drawn up to abdominal incision, and slight traction on cord removed the already loosened placenta. The uterine rupture site extended down the

middle of the anterior wall to about the neighborhood of internal os, the sharply deviated to the left, separating the cervix from the body for about two and a half cm. The borders of the rent were smooth, and the position of the rent was favorable for suture, and so, after careful disinfection of uterus, this was done with silk sutures passed straight through the uterine musculature. A drainage-tube was passed from inner borders of uterine rent near the fundus through cervix into vagina. Uterine cavity washed out through drain tube, abdominal incision treated as usual. With exception of attack of double cellulitis patient made good recovery.

E. H. G.

2. Wasseige: Extrauterine Pregnancy (abdominal); Dermoid Cyst; Gastrotomy; Death of Patient nineteen days after from Hemorrhage (Reprint from *Bulletin de l'Académie Royale de Médecine de Belgique*, Vol. XIX., No. 8).—The case concerns a patient, aged 20, who last menstruated the 20th of May, 1884. Up to four and a half months health good. About middle of October had typhlitis. The end of October was seized with sudden and violent abdominal pain, which yielded to antiphlogistics and lukewarm vaginal injections. Up to April, 1885, nothing noteworthy except constant pain in left side, due, it was thought, to transverse position of fetus. On April 24th, sudden pain, considered due to inflammation of ascending colon. April 27th, intermittent pains, considered due to biliary calculi. The fetal movements and heart beat ceased May 17th; the abdomen rapidly increased in size from accumulation of gas; nausea and vomiting set in. On May 28th, W. saw the case in consultation. Examination of abdomen revealed simply fluid in the peritoneal cavity. Vaginal examination: cervix posterior, external os open for the finger, in anterior cul-de-sac corpus uteri the size of two fists. Diagnosis was, of course, in doubt. The pregnancy, if it existed, was certainly not uterine. An extrauterine pregnancy without pain, without displacement of uterus was a rarity. The choice lay, then, between multilocular ovarian cyst and fetal cyst of the ovary. It was determined to aspirate in order to facilitate palpation. The result was about two litres of a serous reddish fluid, and then palpation revealed two solid tumors in the flanks, but as to their nature it was impossible to give an opinion. Since the patient was rapidly failing, gastrotomy was determined on. On opening abdomen, a quantity of blackish fluid and gas, both foul, escaped, and then the shoulder of a decomposed fetus presented. The fetus was delivered by version. The placenta was attached to the ant. and post. surface of uterus at the fundus but at least three-quarters could with ease be removed, the adherent quarter being left behind. A careful examination revealed towards the right a broken-down septum leading to a cavity wherein was a large quantity of hair. This dermoid cyst was emptied, the abdominal cavity carefully cleansed, abdominal incision united except at lower angle, where drain tube was placed. The patient convalesced well up to nineteenth day, when, against orders, she turned on her side, and died of external and internal hemorrhage. At autopsy, abdominal cavity filled with blood. (The case is particularly of interest as evidencing anew the almost infallible tendency towards erroneous diagnosis in abdominal pregnancy. The case was considered one of normal pregnancy till W. saw her in consultation, and he only reached the correct diagnosis through operation).

E. H. G.

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ORIGINAL COMMUNICATIONS.

INTUSSUSCEPTION IN CHILDREN.

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CASE I.—In July, 1880, a child eight months old was brought to me for treatment for diarrhea. It was much reduced in flesh and strength. I saw the child one afternoon, and recommended the mother to take it to the sea-shore the next morning, and remain on the beach during the day. The same evening the mother noticed a lump in the right hypochondriac region that moved at times towards the left side.

The child passed a restless night, occasionally screaming, and the diarrheal discharges gave place to bloody passages, accompanied with tenesmus. In the morning, without seeing me or notifying me of the new symptoms, the child was taken to the sea-shore. The mother had already noticed that, after violent expulsive efforts, what she called the child's "body" came down. During the day the child had occasional attacks of screaming and straining, accompanied by the same bloody discharges. In the evening I was called in, this being about twenty-four hours after symptoms of intussusception had become prominent. Found the little patient with a rapid pulse, eyes sunken, cold, and vomiting. No tympanites.

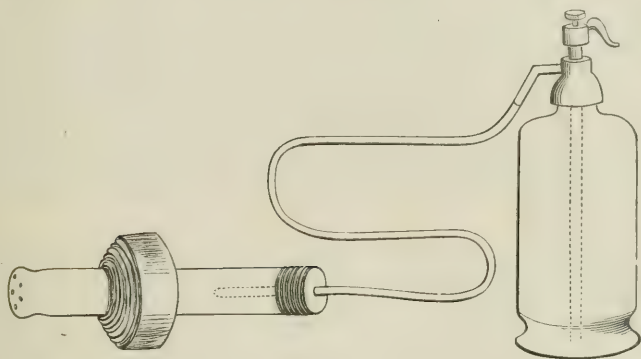
An oblong tumor could be felt in the left iliac region. When the abdomen was manipulated, the child made expulsive efforts which forced out about two inches of the invaginated intestine.

The diagnosis was readily made. I at once attempted to remedy the difficulty. The patient was held in a reclining position, with head and shoulders lower than the hips, and attempts were made to force back the invaginated intestine by means of injections of warm water through a Davidson's syringe. The sphincter ani was so markedly relaxed that two fingers passed through without difficulty, and, owing to this relaxation, it was impossible to confine the injections in the bowel. As soon as three or four ounces had been thrown in, an expulsive effort would drive out every particle of the liquid at the side of the nozzle of the syringe, and force the intestinal tumor down upon the syringe nozzle with considerable force.

Finding my efforts unavailing, I called in a neighboring physician to assist me. The child was suspended for a few minutes with its head downwards. The assisting physician held the nozzle of the syringe in the anus and supported the relaxed sphincter with his hands, while I attempted to inject warm sweet oil. In spite of the position of the child and every endeavor on the part of my assistant to constrict the anus and retain the injection, it was expelled repeatedly. The expulsive force of the abdomen in this weak child was almost incredible. After intermittent attempts for more than two hours, we were compelled to give up these efforts and to propose the operation of abdominal section. To this the parents would by no means consent, and so, it being nearly midnight, we left the case for the night. On my way home I thought of a measure that might perhaps be of service. I stepped into a drug store, and procured an old-fashioned glass vaginal syringe, one inch in diameter and six inches in length, with a rounded end, perforated by a number of small openings. From the syringe I removed the piston and fitted a cork in the open end, with a hole in the cork just large enough to receive the nozzle of a Davidson's syringe. I removed the rubber tube with the nozzle in front of the bulb of the syringe and passed the nozzle through the hole in the cork. A little melted sealing-wax dropped on the cork held the nozzle in place firmly, and made the joints air-tight. The other end of the rubber tube was then slipped over the nozzle of a siphon of Vichy water and fastened. I then made a shoulder on the glass vaginal syringe about an inch from the perforated end, by winding a roller bandage tightly around it. This bandage was wound so as to make a firm shoulder an inch in thickness all around the tube, and made slightly cone shape. My apparatus consisted, then, of a siphon of Vichy water warmed to the temperature of the body, a small rubber tube about two feet in length connecting the siphon with a glass tube one inch in diameter and six inches in length. The end of the glass tube that entered the rectum was rounded and perforated with a number of openings. One inch from this extremity was a shoulder formed by a roller bandage.

The apparatus being complete, I proceeded to put it to the test. The glass syringe was inserted in the anus until the shoulder on

it pressed firmly up against the parts about the sphincter ani and thus supported them. Then I cautiously depressed the cock on the siphon. Not till this moment did the completeness, and (if I may be allowed the expression) the beauty of the apparatus appear.



Whereas with the ordinary method of injection, two physicians had found themselves totally unable to force any considerable amount of liquid into the intestine, owing to the relaxation of the sphincter and the powerful expulsive efforts of the child, now by the pressure of one finger upon the cock of the siphon I was enabled to give an injection without the escape of a drop of the injected fluid. With the utmost ease I could bring to bear upon the invaginated intestine an elastic pressure of gas and water that might be increased at will up to almost any amount. Very slowly then, barely a drachm at a time, I allowed the gas and liquid to escape from the siphon into the glass tube and so into the colon. When an expulsive effort came on I at once stopped the injection, when part of the fluid would be driven back into the glass tube and there meet with an elastic cushion of carbonic acid gas, that while yielding somewhat to the expulsive force of the abdomen, still kept up a continuous pressure on the tumor and gradually forced it upwards. In twenty minutes I found by abdominal palpation that the tumor had risen somewhat in the left iliac fossa, and that the *expulsive efforts of the child were less violent*. Thirty minutes later, no marked tumor could be felt in this region, but there was still an obscure swelling in the right hypochondriac region.

I then had the child held in a semi-reclining posture, with the shoulders higher than the nates, so that gas might rise upwards, and inverted the siphon so that carbonic acid gas alone could escape from the siphon into the rectum. As the gas rose up through the portion of the colon below the tumor and pressed against it, there was a faint rumbling sound and immediately all signs of an intussusception disappeared. The child was then

given an anodyne, and soon fell into a quiet slumber. Two hours later, a natural feculent discharge came from the bowels.

CASE II.—An infant, five months old, in ordinary good health except that it was teething and had a slight diarrhea, was taken in the evening with sudden attacks of crying and screaming. These attacks were paroxysmal in character. The child vomited occasionally. About 2 A.M. to these symptoms were added discharges of blood accompanied by marked tenesmus. The parents then summoned me. I found the symptoms already mentioned. The child was pale, but not yet collapsed. Suspecting what the trouble might be, I at once examined the abdomen and found a tumor in the left hypochondriac region. On passing the finger through the dilated sphincter, and as far as possible into the rectum, it came in contact with the end of the invaginated portion of the intestine.

The diagnosis was plain. Without delay I procured my simple apparatus and the siphon of Vichy, and commenced giving the injection. The tumor was gradually forced upwards. The expulsive efforts of the child became less and less violent as the tumor rose, until at length, before the invagination was reduced, the child fell into a doze. It had had neither opium nor an anesthetic. In one-half hour there was no sign of a tumor present. There was a faint rumbling sound at the close, much as is heard when a hernia is reduced. I gave the child an opiate. The next day it appeared well and made a good recovery.

CASE III.—In April, 1885, I was called to see a girl of 5 years, who had had intermittent pain in the abdomen for two days. She then began to have well-marked tenesmus with the passing of blood.

On examining the abdomen, I discovered a tumor in the right hypochondriac region. This tumor was movable slightly and during a pain became somewhat harder, "rose up" under the hand, and moved slightly upwards. The patient, however, was very comfortable between the paroxysms of pain, there was no collapse, no vomiting, and no dangerous symptoms of any kind, such as were present from the first in cases I. and II. Tenesmus was well marked, however.

In making the differential diagnosis in this case (and I must confess I was a little in doubt at first, owing to the absence of acute symptoms), I had to consider whether the tumor might not be impacted feces. Against this theory was the "feel" of the tumor itself: it did not have the doughy feel that impacted feces are said to have in most cases. The tumor, too, was somewhat erectile, which is said to be characteristic of a tumor due to intussusception. Then again, in impacted feces there is rarely marked tenesmus and passing of blood unless the impaction is in the sigmoid flexure, which was not the case here, the tumor being in the region of the ascending colon.

From these considerations I decided that it was a case of sub-acute intussusception, probably ileo-cecal. Owing to the absence

of acute symptoms, I decided to treat the case tentatively, and immediately began to carefully administer opium, and then waited for other indications before commencing active treatment. After a few hours the pain and tenesmus gradually subsided. Fomentations of the abdomen were then added to the other treatment. The patient passed a comfortable day and night.

The next day (twenty-four hours after beginning treatment), the tumor was present, but slightly smaller. A little blood still passed, but tenesmus was absent. I continued the treatment and employed massage to some extent.

The third day the tumor could not be felt. In the evening the child had a passage of natural consistency and made a speedy recovery. There was no evidence in the passage of hardened feces.

Intussusception or invagination of the bowel in children is an affection of great interest to the physician, not so much because of its frequency, though it occurs oftener than is usually supposed, but on account of its dangerous tendency unless promptly and carefully treated.

The varieties of invagination, classified according to situation, are four.

1st. Invagination confined to the small intestine.

2d. Ileo-colic: the small intestine passing through the ileo-cecal valve into the colon.

These two varieties are extremely rare in children under ten years of age, and it is doubted by some writers whether the first ever occurs in small children.

Bristowe says "jejunal and iliac intussusception (*i. e.*, intussusception of the small intestine) is met with generally, if not exclusively, in adults."

3d. Ileo-cecal: the cecum and ileum pass into the colon, but the ileum does not pass through the valve.

The cecum enters the colon, dragging the ileum with it, the ileo-cecal valve forming the lowest end of the tumor. The cecum and the upper part of the colon are gradually inverted as the tumor descends.

This variety of invagination forms forty-four per cent of all cases both in adults and children. It probably forms between eighty and ninety per cent of all the cases occurring in children.

4th. Colic invagination; colon passing into colon. This forms eight per cent of all cases, but probably a larger per cent than this in children.

From the foregoing it will be seen and must be borne in

mind, as it has a practical bearing on the treatment, that, in nearly every case of intussusception in children, the colon alone forms the sheath or outside layer of the tumor, and that the invaginated portion of the intestine can be acted upon by a pressure from an injection thrown into the colon.

Cause.—The cause of intussusception is given as unknown in sixty-two per cent of all cases. In eight per cent diarrhea or dysentery is given as a cause. It is probably due in every case in a child (when there is no polypus or malformation of the intestine) to disturbed nerve action in the intestine; a want of rhythm of action between the circular fibres of contiguous parts of the intestine. The experiments of Nothnagel are interesting in this connection. He exposed the intestines and mesentery in a living animal, and applied the faradic electric current to a small area of the mesentery. A portion of the intestine a few inches in length, connected with the part of the mesentery acted upon, contracted firmly into a dense cord-like condition. The intestine just below this portion, not being acted upon by the electric current, and hence retaining its natural calibre, gradually rose up around the contracted intestine and inclosed it, thus forming a perfect intussusception. Now apply this view of the cause of intussusception to the human subject. A child, from some one of the many possible causes, has the nervous action of the intestine disturbed; it has a colic in fact, a wave of spasmodic contraction and relaxation either commences near or travels down to the lower end of the ileum.

The cecum, the beginning of the large intestine, is large, and in the child very movable. As the ileum near the valve contracts spasmodically, the larger cecum slips up around it and the intussusception is commenced. Now every paroxysm of pain tends to increase this condition by pushing the ileum further and further into the colon, turning the upper part of the colon inside out, until at length, in severe cases, perhaps in a few hours, the extremity of the ileum, with the ileo-cecal valve, will protrude from one to six inches outside of the anus. The usual cause of intussusception then must be some disturbance of nerve action in the intestine. However interesting this theory of the cause of intussusception may be from a scientific standpoint, it has no practical bearing whatever. There is no method of knowing when the child is in danger of an attack of intussusception, for in many cases it comes on apparently in a mo-

ment, in children that seem perfectly healthy. Weakly children, and those subject to intestinal troubles, are probably more liable to it than others.

Diagnosis.—The diagnosis is a subject of the greatest importance. In reading histories of cases of intussusception as we find them given from time to time in the medical journals, one is struck with the fact that in a majority of the cases an erroneous diagnosis is made at first, and a wrong course of treatment pursued.

Either the case is thought to be one of obstinate constipation and is treated for a time by purgatives, such as croton oil, calomel, jalap, liquid mercury, or bird-shot, much to the detriment of the patient; or, on the other hand, it is thought to be a case of severe wind-colic or dysentery, and is treated with opium.

After a day or two of such treatment, the physician either discovers his mistake, or some one is called in who recognizes the true state of the case.

Now there is no inherent difficulty in making a diagnosis of this affection in children, in the majority of cases. Mistakes are made, because the physician is not on the lookout for this condition, and because the symptoms resemble somewhat certain minor affections.

The characteristic symptoms are four: *pain, bloody discharges, tenesmus, and a tumor.* The pain in acute cases is paroxysmal in character, is sharp and cutting, and causes the child to scream. In itself this is not characteristic, but taken with the next symptom it becomes of great importance. A discharge of blood is one of the most important symptoms. It appears a few hours after the attacks of pain, and is almost invariably present during the course of the disease. There are but three affections in children that, so far as I know, give rise to bloody discharges from the anus. These are dysentery, mucous polypi, and intussusception.

Polypi need never be confounded with intussusception, because the symptoms are not acute, and they are not accompanied with cramp-like pains, and constitutional disturbances.

The diagnosis between intussusception and acute dysentery is a little more difficult. Dr. J. Lewis Smith says that, in most of the cases of intussusception where he has been called in consultation, he has found the patient under treatment for dysentery.

The points of difference are that there is more blood and little, if any, slime in intussusception, while in dysentery there are slimy, foul-smelling discharges, tinged with blood. In intussusception the attack is generally more acute than in dysentery, the pain is greater, and more like colic; finally, there is a tumor that may usually be found by a careful examination.

Blood is always present in these cases in young children, but in children over ten years of age, and in adults, it may be absent.

The *tumor* is the characteristic sign. This is present and can be found in about eighty per cent of all cases, and in children probably in a much greater percentage of cases. In the search for the tumor, if the child is very fleshy, or the abdominal wall resisting, the patient may be safely put under the influence of ether or chloroform.

Generally the tumor will be found in the left hypochondriac region. The location, however, is not constant by any means, and it may be found in any region of the abdomen.

The tumor is oblong in shape; it is movable, changes its position during an attack of pain, and is erectile to a certain extent when the child strains.

Not infrequently the tumor appears at the anus, or may be reached by passing the finger into the rectum.

Is it possible to mistake a tumor of this character, when associated with some or all of the symptoms previously mentioned, for anything but an invagination? The pain, the blood, the constitutional reaction, the throes and strainings of the child without passing feces, and the erectile tumor are the practical signs. Not all of them may be present in every case, but some of them must be.

There are other symptoms of intussusception, but they are by no means so characteristic as those just given. Vomiting is usually present, but this is so frequently present in children's diseases that it is no guide for the diagnosis of intussusception.

In the cases I have seen, there was a marked relaxation of the sphincter ani: in children less than a year old, two fingers passed easily into the rectum.

This symptom points to some affection of the large intestine.

With many or all these symptoms present, there will be little trouble in making a diagnosis, if the physician is ready to appreciate the meaning of them.

In subacute and chronic cases, these symptoms mentioned above are not so prominent. There may not be great pain; a paroxysm not very severe is succeeded by a long interval of ease; constipation may not be present for some time; blood will appear at the anus after a time, and careful search will discover a tumor somewhere in the abdomen. But on account of the comparative rarity of the disease, and the lack of urgency in the symptoms, a careful examination of the abdomen may not be made, and hence a mistaken diagnosis is held for several days. The only way to avoid these mistakes is, in every case of colic or bloody discharges in a child, to make a very careful manipulation of the abdomen for the possible presence of a tumor. The importance of making an early diagnosis in this affection must be evident.

Treatment.—In the treatment of this affection drugs play an altogether secondary part. Cathartics, of course, are contra-indicated.

The English authors speak of belladonna and opium as being useful, the belladonna to relax the intestinal spasm and to restore the rhythmical action of the unstriped muscular fibre; the opium to relieve pain and prevent shock. The uncertainty as to how much opium may be given with safety to a child makes me afraid to use it to any extent in this affection, though I should certainly give it. It will require a poisonous dose to relieve the pain of intussusception, and if the tumor should be reduced while the opiate is yet in the system, death might occur from opium poisoning. A small dose frequently repeated, to counteract shock and quiet intestinal action, may be safely given, but for the relief of pain and spasm during attempts at reduction, chloroform or ether will be safer and more serviceable than opium.

Spontaneous cure by sloughing of the invaginated portion of the intestines is hardly worth considering in the case of children under five years of age. Bristowe speaks somewhat doubtfully of the value of active treatment in this affection, and says that we may well give the child the chance of recovery by spontaneous cure. But he likewise says that if the invagination occurs in the large intestine, recovery by sloughing almost never takes place; and in another connection he says that intussusception in children rarely, if ever, occurs, except in the large intestines.

Putting these statements together, it becomes plain that children, unlike adults, can rarely recover spontaneously.

Treves' statistics show that spontaneous elimination of the invaginated intestine in children under two years of age takes place in only *two per cent of the cases*. Even in the cases of spontaneous elimination the child very rarely recovers, but dies from peritonitis or exhaustion. Between two and five years of age, spontaneous elimination (not cure) takes place in only six per cent of the cases; between six and ten years of age in thirty-eight per cent. Hence, active treatment of some kind is indicated. Bearing in mind what has been said previously as to the usual location of the disease in children, it will at once be plain that pressure on the tumor by injections through the colon will be a reasonable method of treatment. This treatment is as old as Hippocrates.

There are several things to be considered before giving an injection for intussusception.

1st. When does *adhesion* between the coats of the invaginated intestine take place; for, obviously, it would not be safe to try to force back the tumor after adhesion and sloughing had commenced. The very shortest time on record when adhesions had taken place between the coats of the invaginated intestine is three days. The average length of time is five to seven days. Even then these recent adhesions are soft and yield to pressure, and are not a bar to careful attempts at reduction.

2d. When does *softening* and *sloughing* of the bowel commence in these cases? This very important question cannot be definitely answered. The time varies remarkably. In the *ultra* acute cases (which happily are very rare) sloughing may commence in twenty-four hours. In the ordinary acute cases three days would be about the minimum time. In subacute cases a week or more may pass before sloughing takes place.

3d. What form of injection is the best: liquid, or gas, or a combination of them both; and how shall the injection be best administered?

In answer to this I can say that I found the *siphon* arrangement I have described very convenient and effective in the cases in which I used it. Certain facts about these siphons should be borne in mind before employing them. They contain either saline or pure water charged with carbonic acid gas.

They are charged under a pressure of from one hundred to one hundred and twenty pounds to the square inch. Each cubic inch of water under this pressure absorbs about five cubic inches of gas, four inches of which will be liberated as soon as the water escapes from the pressure within the siphon. Hence when one cubic inch of water has escaped from the siphon into the bowel we have in reality given a volume of gas and liquid that occupies space equivalent to five cubic inches. Hence the liquid should be allowed to escape very slowly, barely a dram or two at a time; we must bear in mind that we have a force in the bottle sufficient to rupture the intestine instantly if employed carelessly. Another caution to be observed in the use of the siphon is to avoid exposing it to any considerable heat in warming it, for fear of an explosion.

It may be said that the siphon cannot always be obtained when needed, especially in country districts. If the siphon is not at hand, one can be improvised in fifteen minutes in the following manner: Take a strong bottle or jug holding a pint of water. Fill it and then put in two ounces of bicarbonate of soda and an ounce and a half of tartaric acid. Cork instantly, tie in the cork, cover with melted sealing-wax, and then screw a champagne faucet through the cork. By slipping the rubber tube over the faucet and inverting the bottle we have a siphon that answers every purpose.

Ziemssen speaks very highly of carbonic acid gas in the treatment of intussusception. He seems to think it has some specific effect on the coats of the intestine that favors the reduction of the invagination.

He recommends a measure in the use of it that cannot be employed with safety, in children at least. He says that twenty grains of bicarbonate of soda may be dissolved and injected into the rectum. Then fifteen grains of tartaric acid in solution may be injected. The chemical union of the two will set free a large volume of carbonic acid gas within the colon.

4th. *What syringe should be used?* After a careful consideration of the subject and many experiments, I have become satisfied that we should use the *fountain syringe* only in treating these cases.

The surgeon should know exactly how much force he is exerting on the walls of the intestine every moment. If accuracy is important in any surgical operation, it is important in this

one. The danger is not greater in using too much force than in using too little. In the former case, the intestine is ruptured and death ensues; in the latter, the injection having been tried with too little force, the tumor is wrongly declared irreducible by injection, and the child is left to die unaided, or it is at once decided that an operation by laparotomy is the only resource.

To illustrate how absurdly injections are often given in these cases, let me give the outlines of a case reported in the *Maryland Med. Journal* for December, 1884:

A surgeon was called in consultation in a case of intussusception in a child two years of age. He says that in attempting to reduce the invagination by injections, the child was inverted and a funnel inserted into the rectum and water poured into this. This method failing to reduce the tumor, and the parents not consenting to the operation of laparotomy, the child was left alone. At length the parents consented to the operation; the abdomen was opened and the tumor easily reduced. The child, however, died from exhaustion and shock.

The surgeon reporting the case draws the moral that the operation of laparotomy should be resorted to early in these cases. It does not occur to him that a pressure from within the colon against the tumor by liquid or gas injected with *sufficient force* might have done in the beginning what his fingers in the abdominal cavity did two days later, namely, reduced the non-adherent tumor. A force of possibly a half pound pressure to the square inch was employed by his injection, when he might have used with safety, and should have tried at least, a pressure of five or six pounds to the square inch, before deciding that injections were useless.

Another case was reported in the *N. Y. Med. Journal* a few years ago. The physician says: "I at once suspected it to be a case of intussusception" (the tumor was present and every symptom needed to make a positive diagnosis) "and ordered an enema of tepid soap and water to be repeated every two or three hours until a fecal discharge should be obtained. On my return next morning I was informed that no passage had been produced." Injections thus administered do not tend to force back the invagination, but to increase it. The colon is stimulated to make expulsive efforts and thus drive the intestinal tumor further down.

The *Davidson's syringe*, the usual means used in giving injections for the cure of intussusception, is a wholly untrustworthy

instrument and should never be used if the fountain syringe can be obtained. The amount of force evolved by compressing the bulb of the Davidson syringe depends on the muscular power of the operator, and cannot be even approximately measured. In one case it may be enough to rupture the intestine instantly, and in another not as much as might have been used with perfect safety.

Surgeons would perhaps be surprised did they know how much force can be obtained from the Davidson's syringe. I find that the grasping power of my own hand as measured by the dynamometer is about *ninety* pounds. Now, apply this force to the bulb of a Davidson's syringe, and if the syringe be a good one, we can bring to bear on a column of water within the colon a pressure of ninety pounds to the square inch, provided, of course, the colon does not rupture. Experiments, given later, show that it will usually rupture under a pressure of fifteen pounds to the square inch. Hence with the Davidson's syringe the surgeon does not know whether he is exerting a pressure of five or thirty pounds to the square inch in the colon. This syringe, then, is not an instrument of precision at least. Then again the intermitting force given from the Davidson's syringe is objectionable. It tends to excite peristaltic action in the intestines which should be avoided as much as possible.

Injection of air: insufflation by means of a bellows is frequently practised in England in the treatment of these cases. This method is open to the same objections and on the same grounds as the treatment by the Davidson's syringe.

Bryant, of London, reports a number of cases where the intestines were ruptured by insufflation from a bellows. This method, then, is not unaccompanied with danger.

A still more dangerous instrument is the one that succeeded in cases I. and II. reported by me, namely, the *siphon* of Vichy or *carbonic acid* water. I am surprised to find that Treves, in recommending this method of treatment, gives not one word of caution as to the dangers to be guarded against. The precautions to be used are given on a preceding page and need not be repeated here.

The most dangerous method of all in the treatment of these cases is that recommended by Ziemssen, namely, to first inject a solution of bicarbonate of soda, and then immediately to inject a solution of tartaric acid so as to set free carbonic acid gas by

their union. This may not be as dangerous as exploding dynamite within the intestine, but the same principle is employed in producing force in either case, namely, a rapid chemical change with a sudden liberation of gas.

The *fountain syringe*, then, is the only one that can be used in these cases with accuracy, and therefore it is the only one that should be employed. By it the amount of force used can be accurately measured, *as every two and one-half feet in height of the reservoir above the point of delivery represents about one pound pressure on every square inch of the intestine below the point of obstruction.* Thus if the reservoir is suspended seven and one-half feet above the child, a force of three pounds to the square inch is exerted on the obstruction. If the rubber tube be fifteen feet in length and vertical, the pressure will be six pounds to the square inch. With a tube of sufficient length any pressure can be brought to bear on the tumor as desired. This law of the relation of pressure to height comes from the well-known physical fact that our atmosphere, weighing fourteen and three-fourths pounds to the square inch, balances a column of water thirty-four feet high. Hence each pound of the atmosphere balances a column of water 2.37 feet in height. It will be accurate enough for all practical purposes to say then that a column of water two and one-half feet high exerts at its base in every direction a pressure of one pound to the square inch. Hence the exact force used in giving an injection can be obtained in this manner. The only important feature about the siphon syringe is the long tube, or a number of pieces of rubber tubing that can be spliced.

Not less than from twelve to twenty feet of tubing should be at hand. The reason for this will appear later. Into the upper end of the tubing a funnel can be inserted in which to pour the water; or the water can be conducted into the tube from an ordinary pitcher on the principle of the siphon.

A convenient way of getting sufficient elevation (for most rooms are not twelve to twenty feet high) would be to have one person carry the reservoir of water to the stairway while the patient could be in the hall-way or in a room opening into the hall near the stairs. I have dwelt at some length on these details because it can only be by paying attention to them that we can treat intussusception successfully by means of injections.

Whether one use the Davidson's syringe in giving the injection or the siphon, the *rectal tube* I have described as made from a glass vaginal syringe with a shoulder one inch from the end will be found a very important adjunct. By this simple contrivance an injection may be given without fear of wounding the intestine, without making painful pressure on the parts about the anus, without the escape of a drop of the liquid used, and with the utmost ease and convenience to the operator. Its effectiveness is due to the fact that during the terrible expulsive efforts of the patient the stretched sphincter is supported by the large tube and the shoulder, and thus none of the liquid used can escape. Owing to this fact we can measure accurately how large a quantity of liquid is injected. A shoulder on the nozzle of the Davidson's syringe will not answer the same purpose at all, because the diameter of the nozzle is only about a quarter of an inch and hence does not support the relaxed sphincter.

Mr. Lund, of Manchester, England, has devised a rather elaborate instrument for this purpose, consisting of a nozzle like that of a Davidson's syringe, an air-inflated rubber ring on it to press against the anus, a metallic shoulder to support the rubber ring, a double canula, and a handle to hold the whole by. This apparatus, which Treves figures and speaks very highly of, is not so simple, so cheap, so safe, or so effective as the one devised by me. So far as I know, this instrument, if I may so designate a very homely and simple contrivance, has not been before used in these cases. A trial of it alone can show its value.

5th. *How much force may be safely used in giving the injection, provided we do not think sloughing has commenced?*

I shall have to disagree with Dr. H. B. Sands in his views on this point. He says in the *N. Y. Medical Journal* for 1877: "If injection or insufflation causes severe pain, it should be considered as dangerous." This rule, of course, could not be applied if the child was under the influence of opium or an anesthetic, and one or the other should be used in most cases. Then, again, the greatest pain experienced by the child and the most violent struggles take place at the *beginning* of treatment, especially if the tumor be in the lower part of the colon.

When the injection is properly given, especially if the nozzle

I have described be used, it will be found in most cases that the pain becomes less as the force of the injection is increased, up to of course a safe limit. It was so in the cases I have reported in this paper and it is so given in reports of other cases.

My answer to the question would be that a pressure of *six pounds to the square inch* may be employed in any case seen within three or four days of the inception of the attack, provided, of course, that a lesser pressure does not succeed. This pressure could be reached very gradually by elevating the reservoir up to a height, if necessary, of fifteen feet above the patient. My reasons for deciding upon this particular amount of force as the limit to which we may go, if a lesser force does not suffice, will appear from the following experiments.

Experiment I.—Child ten days old, died of marasmus not accompanied with any fever. Opened the abdomen without disturbing the intestine. Injected cold water from a fountain syringe, the reservoir suspended five and one-half feet above the point of delivery, this giving a pressure of a little over two pounds to the square inch within the intestine. The liquid distended the colon and penetrated to the ileo-cecal valve, but did not pass that point. Manipulating the intestine so as to make slight traction on the ileum at its point of junction with the cecum, opened the valve so that the liquid passed easily while the pressure remained as before.

Suspending the child by the feet, with the head downwards, also made the ileo-cecal valves pervious, without increasing the pressure.

These experiments would seem to show that massage and position may, in some cases, aid in opening the ileo-cecal valve to the passage of an injection.

Experiment II.—Reservoir suspended nine feet above the point of delivery, thus making the pressure within the colon about four pounds to the square inch. This caused the liquid to pass the valve when aided by the position of the child, with its head downwards.

The liquid, however, did not penetrate beyond the middle of the small intestine, owing to the friction in the small intestine and the obstruction from numerous sharp turns. Experiment repeated several times, with the same result each time. The practical deductions from this experiment would be, that the pressure from the rectal injection will always be greater in the

colon than in the small intestine, and the pressure in the small intestine will decrease directly as the distance from the ileo-cecal valve.

An obstruction in the small intestine, especially if it be in the upper half, can only be overcome by the expenditure of great force at the rectum.

Experiment III.—Used the siphon apparatus described in the first part of this paper. The liquid and gas were allowed to escape very slowly. The colon, intestines, and stomach were each dilated in turn, and in a few minutes the gas bubbled out of the subject's mouth and nose. It seemed almost impossible to rupture the intestine by pressure, as long as the nose or mouth were pervious.

Experiment IV.—A ligature was placed about the small intestine five feet from the ileo-cecal valve; when the pressure became too strong to be resisted, the intestine gave way, not at the point of obstruction in the small intestine, but in the middle of the transverse portion of the colon.

Experiment V.—Child three weeks old, dead three days. Pressure from a fountain syringe, equal to five pounds to the square inch, was put upon the colon without rupturing it or even destroying its elasticity. This pressure, however, did not force the water through the ileo-cecal valve (as did a less pressure in the other case), although position of the child and manipulation of the intestines were used as aids to the injection.

Experiment VI.—By the courtesy of Dr. Taft, chemist for John Matthews, I had been furnished with a five-gallon fountain filled with water and charged with carbonic oxide gas, under a pressure of fifty pounds to the square inch. The delivery pipe from the fountain had a pressure gauge so arranged on it that the gauge measured the pressure in the delivery tube at any given moment. Now, when this tube was connected with the rectum by means of the nozzle of the syringe, and the stop-cock slowly opened, the gauge measured the pressure upon each square inch of the colon at any instant. When all was ready, the water and gas were allowed to escape slowly from the fountain and thus to gradually increase the pressure in the colon. The gas causes a more rapid and forcible dilatation of the intestines than does a liquid, even under the same pressure. A force of six pounds to the square inch was used without fore-

ing the ileo-cecal valve, and without rupturing or even over-distending the colon.

Experiment VII.—The bands of the peritoneum binding the ileum to the colon at the ileo-cecal valve were divided without cutting any of the muscular coats of the intestine. This allowed the end of the ileum to be drawn out from the colon and destroyed the integrity of the valve.

Experiment VIII.—Made an impassable obstruction in the small intestine by means of a ligature, and then turned the stop-cock so as to allow the pressure to slowly increase in the intestine up to the point of rupture. Rupture took place at about the middle of the transverse colon on the anterior surface. The intestine bore a pressure of nine and three-quarter pounds to the square inch before rupturing. The subject was a child a few months old.

It may be said here that rupture in all the experiments took place in the colon, and usually in the transverse colon. This shows, not that the colon has less resistance than the small intestine, but that in a rectal injection the pressure must always be greater in the colon than in the small intestine, even though the valve be pervious.

Experiment IX.—Male about forty years of age; died of cirrhosis of liver. Connected the colon with the carbonic acid fountain and allowed the colon to fill slowly. When the gauge indicated a pressure of nine pounds to the square inch, the gas passed the ileo-cecal valve.

At a pressure of thirteen and one-half pounds to the square inch the longitudinal bands on the colon that give it its characteristic appearance gave way in places with a snap. The pressure was allowed to run up to fifteen pounds to the square inch, and still the intestine did not rupture. The gas and water passed freely through the whole length of the intestinal canal and out of the mouth.

Experiment X.—Eight months' fetus that died during delivery. A pressure of two pounds to the square inch forced liquid through the ileo-cecal valve, and a short distance into the small intestine. A pressure of three and one-half pounds forced the liquid through the whole length of the alimentary canal and out of the mouth. A ligature was placed around the intestine at about the junction of the jejunum and ileum, and the intestines subjected to a pressure of six pounds to the square

inch. There was no rupture. It would seem from these few experiments that the following conclusions might be drawn:

a. That position and manipulation, in some cases at least, aid in forcing an injection through the ileo-cecal valve.

b. That in most cases, not in all, the valve will give way so as to permit of the passage of an injection before a rupture of the colon would take place.

c. That the valve is not the only obstacle to the passage of liquids or gas from the anus to the mouth, but that friction in the small intestine is an important factor.

d. That if an injection be given with force sufficient to cause rupture of the gut, the rupture will occur in the colon.

e. Injections cannot be relied upon to overcome obstructions in the small intestine.

f. That the colon, both in the child and in the adult, bears a surprising amount of pressure without rupture, a *force of eight or nine pounds in the infant, to twelve or fifteen pounds in the adult.*

These latter conclusions are the ones that concern us most in this inquiry. We would then be justified, in any case of intussusception in a child, where the disease has not lasted long enough for sloughing to commence, or adhesions to form, to gradually apply a pressure within the colon of at least six pounds to the square inch. This could be done by raising the reservoir about fifteen feet above the subject operated on.

If the invagination be reducible, this pressure would seem to be sufficient in any ordinary case to reduce it, for it must be borne in mind that practically the intussusception in children is always in the large intestine, and so will receive the full force of the injection. A pressure of six pounds to the square inch is a safe force to use in any acute cases seen within the first three days. If the case be subacute or chronic, this pressure would be safe to employ for any time within a week, or perhaps three weeks. Cases are reported where an injection has succeeded in reducing the invagination as late as a week after the affection appeared.

6th. How shall the injection be given? *Keep up a very slow but steadily increasing pressure until the tumor gives way or the safe limit of pressure be reached without reducing the invagination.* Then keep the pressure at this point, fifteen, twenty, sixty minutes, if necessary, meantime manipulating

the abdomen gently. Of course, if the case be thus obstinate, the child should be under the influence of ether.

I am aware that this continuous pressure is not the method usually practised or taught.

We are told to inject as much liquid as we can, and then let it run out. Then repeat the manœuvre. This method is admirable for exciting the large intestine to expel any offending substance from it, whether that be hardened feces or the invaginated intestine. Our object, however, is not to cause the expulsion of anything, but to mechanically force back an intestinal tumor.

Therefore, it seems evident that a continuous pressure will accomplish this result better than an intermittent one. It will be observed in case I. in the paper that the intermittent pressure from the Davidson syringe did absolutely no good; on the other hand, the continuous pressure from the siphon, without the escape of any of the injected liquid, soon stopped the pain and struggles of the child, and steadily forced back the tumor. It overcame the spasmodic expulsive efforts as the continuous but gentle pressure of the sound overcomes spasm of the urethra in the male.

I regard this principle of *continuous pressure* as a very important one in these cases, and one that both experience and the laws of hydrostatics would seem to indicate. In order to realize the full value of this principle, it must be borne in mind that hydraulic pressure is always the same in every direction. Hence when a column of water is put into the colon in these cases under a certain pressure, it not only is pushing back the tumor, but at the same time, and with exactly the same force, it is dilating the sheath of the tumor and compressing the tumor on every side, and thus lessening its calibre; even for this reason alone, if for no other, the pressure should be continuous instead of intermittent, until the object in giving the injection is obtained.

There can be nothing gained in such a case by forcing back the tumor for a short distance and then allowing it to be pushed down again by an expulsive effort.

If continuous pressure be used, the injected liquid might be warm milk, or milk and water, or beef-tea, as in the fifteen to sixty minutes that this would be contained in the colon, a not inconsiderable amount would be absorbed, and thus aid to keep up the vital powers of the child.

But suppose that this plan of treatment has been faithfully tried and still the case does not yield to the treatment; what is to be done?

There are three courses open: *First.* An operation by laparotomy, opening the abdomen and attempting to reduce the invagination by traction on the intestine.

Second. Leaving the case to nature, with the chance of a cure by spontaneous elimination of the invaginated portion of the intestine; or,

Third. The use of a more forcible injection, even though there be the possibility of rupturing the intestine by so doing.

Let us consider these plans separately and in order.

Laparotomy. In recent years surgeons have advocated this method of treating intussusception as being comparatively safe, and more certain than other means of treatment.

Modern surgeons, unlike our surgical forefathers, do not regard the abdominal cavity as the ancient Hebrew did the "Holy of Holies," a place never to be entered except under certain rare conditions. On the contrary, they talk of making explorative openings into the belly, for the purpose of diagnosis, as calmly as if there was no danger in such a procedure.

It is hardly to be wondered at, then, that opening the abdomen to reduce an invagination should be looked upon with favor.

Of course, most surgeons advise a trial of other methods before proceeding to this last resort, but we find in practice that they don't "waste much time," as they call it, on insufflations and injections. For instance, Mr. Goodlie reported three cases of laparotomy for intussusception in children before the London Clinical Society. In the first case he says: "It was not thought wise to spend much time in attempts at inflation, and accordingly abdominal section was performed at once." The tumor was ileo-cecal and easily reduced, and there was no apparent reason why an injection, properly administered, might not have done just what his fingers did, *i. e.*, reduced the invagination. In case II., reported by him, the trouble had lasted but a few hours, the tumor was not large, and there was no contra-indication to attempts at reduction by injection. Yet he proceeded at once to open the abdomen. The tumor was very easily and quickly reduced. The child died, however, and Mr. Goodlie, in commenting on it, says that in a case no worse than

this he should another time try inflation before opening the abdomen.

In case III., the invagination had lasted some days, and laparotomy in this case may have been justifiable.

"Actions speak louder than words" in such cases, and show the drift of surgical opinion to be towards a quick resort to aparotomy.

Treves, of London, says: "There is no reason why in the future, with a fuller knowledge of the technical details essential to the operation, with a surer acquaintance with the clinical aspects of obstruction, and with the exercise of a sounder judgment in the selection of cases, the procedure of laparotomy should not have a mortality but little higher than that of the operation of strangulated hernia."

The height of boldness in these cases, however, is reached by Bryant, of Guy's Hospital, London. He advises in his lectures that in every case of *acute* intussusception we should not wait for other treatment, insufflation, injections, etc., but open the abdomen at once and reduce the invagination, precisely as in a case of a strangulated hernia.

In regard to Mr. Bryant's position, this question occurs: Suppose the abdomen opened; the invagination is still to be reduced. Now, can traction by the surgeon's fingers on the invaginated intestine reduce the tumor, if it be reducible, with less danger and more readily than a forcible injection into the colon?

The injection is an elastic pressure, and, as has been said, dilates the sheath of the tumor at the same time that it with equal force presses the tumor back. Can the surgeon's fingers act in this manner? Does not their tractile force act on the intestines in one or two lines, and thus would it not be more liable to tear the intestine than an equal force from a liquid injected into the colon?

Professor J. B. S. Jackson, of Harvard College Medical School, said on this point that "He considers opening the abdominal cavity for intussusception with a view to withdrawing the invagination a foolhardy procedure, since it (the intestine) would usually tear before it could be withdrawn, even in comparatively recent cases."

If, however, the danger of lacerating the intestine be the same by either method, and their effectiveness in reducing the

tumor be equal, yet how infinitely more dangerous is the treatment advocated by Mr. Bryant than that of a properly administered injection.

His method *adds* to the possibility of lacerating the intestine the certain danger of death from peritonitis or shock arising from the abdominal incisions and manipulations. The latter danger is not a slight one by any means. The abdominal cavity, in children at least, cannot be opened with impunity. Treves' tables show that after laparotomy the death-rate in children, even though the invagination was "easily reduced," is 43 per cent.

What is this high death-rate due to? Not to the reduction of the invagination, for that was "easily reduced."

It must be mainly due to the abdominal section. It will be said that delay in operating and consequent exhaustion of the patient is the cause of the fatal result. It may be said in reply that, had a properly given injection reduced the tumor *without opening the abdomen*, the patient, however weak and collapsed, would in the very large majority of these cases have quickly rallied and recovered. Numerous cases are reported where the prostration and collapse was profound and had continued for days, and yet when the invagination was reduced without opening the abdomen the patient quickly recovered. In fact, I can find no case on record where the patient died after the tumor was once reduced by insufflation or injection.

But we need to ask here, if the reduction of the invagination was "easy," why was the operation of laparotomy necessary at all?

It would seem, from the nature of the problem, that any case of invagination in the large intestine that can be easily reduced by the surgeon's fingers might have been safely reduced by the direct pressure of liquid injected into the colon.

The force thus exerted ought to be as safe and effective in untwisting and pushing back the intestinal tumor as the pulling and pushing by the surgeon's fingers after the abdomen is opened.

Surely, then, the grave operation of *laparotomy* should be reserved for cases that cannot be reduced by the simple operation of giving a forcible injection.

Now, what have been the results of laparotomy for intussusception in *children* where the invagination "was reduced with

difficulty or was irreducible"? According to the statistics of Leichtenstern, of Treves, and of Schramm, who have collected by far the largest number of these cases of any authors, the death-rate after laparotomy "where the invagination was difficult or irreducible" was just 100 per cent; not a single case recovered. Laparotomy has succeeded in 57 per cent of the cases where it was not indicated at all, where simpler, and less dangerous methods would have succeeded far better; and, according to statistics, has failed in every case where laparotomy was really indicated. These conclusions only apply to children under 12 or 15 years of age.

Spontaneous Cure. The *second* course open in an obstinate case is to leave it to nature. What are the statistics of operations by sloughing of the invaginated portion of the intestine, and how do these compare with laparotomy?

In the infant, spontaneous elimination takes place in only 2 per cent of the cases, and even these do not recover. In the second to the fifth year of age, spontaneous elimination takes place in only 6 per cent of the cases, and most of these die. Hence, up to the sixth year of age nature fails to cure these cases because the child's strength gives out before the slough can be thrown off.

Between the sixth and eleventh year, however, spontaneous elimination takes place in 38 per cent of the cases; and recovery takes place in 42 per cent of those that undergo spontaneous elimination. In other words, 22 per cent of all cases of intussusception that occur between 6 and 10 years of age recover by nature's operation.

We may suppose those cases of spontaneous elimination cases "difficult or impossible to reduce"—at least they never were reduced, although in most of them attempts were made to do so. When we compare nature's results in these cases with those of laparotomy in "difficult" cases, we are struck by the advantage of nature's method over that of the surgeon.

In children over 10 years of age, nature's operation gives still better results.

Hence it does not follow that, if one cannot reduce an invagination in all cases by an injection, he should, of course, call in a surgeon to open the abdomen.

This depends, among other things, on the age of the patient.

Forcible Injections. The *third* course open in any case that

resists an injection given with a safe degree of force (six or seven pounds pressure to the square inch) is to resort to still greater force, say nine or ten pounds pressure to the square inch. This cannot be done without danger of rupturing the intestine, and thus causing the death of the patient.

But it must be borne in mind that these cases are dangerous ones, at the best, and—whether we leave them to nature, or resort to laparotomy—the death rate must be very high in any case.

In children under 6 years of age, either laparotomy or nature's operation is almost always fatal; hence we would be justified in running some risk in giving a forcible injection in these cases.

Not to draw this out too far, let me state in a few words the course I would recommend in *all cases of intussusception in children.*

A pressure of six pounds to the square inch having failed to reduce the tumor after a lengthened trial, I should cautiously raise the pressure to seven and eight pounds, and even nine pounds to the square inch, depending on the acuteness of the attack and the length of time the invagination had continued. *This* having failed, what course should then be followed?

If the child be under 2 years of age, open the abdomen at once and resect the intestine. The child will probably die; but, if left to nature, the case is absolutely hopeless.

If the child be between 2 and 5 years of age, and injections have failed, the chances of cure by sloughing or from laparotomy are about equal, and the surgeon will be justified in following either course. Remember that the invagination probably cannot be reduced even by traction, and the principal object in opening the abdomen is to resect the intestine, or to perform enterotomy.

If, however, the child be *over five* years of age, and the tumor has resisted a pressure of eight or nine or ten pounds to the square inch without being reduced, we must conclude that it is irreducible.

Now, according to statistics given above, the operation of laparotomy in these cases shows a greater death rate than the cure by sloughing, the "spontaneous cure;" therefore, nature's operation, nearly hopeless as it is, should be preferred to laparotomy.

A NEW INSTRUMENT FOR INTRAUTERINE MEDICATION.

BY

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IN consideration of the dangers accompanying the injection of fluids into the undilated or even the dilated uterus, by all the means at present in use, I take pleasure in presenting to the profession a new instrument, based on a principle not before applied in the practice of medicine and surgery, by means of which I am enabled to wash out the undilated womb, and make applications of medicinal agents with absolute safety (if such an expression can ever be applied to any procedure in the practice of medicine) to this and other cavities.

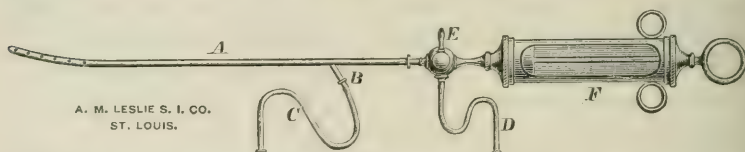


FIG. 1—Represents the entire apparatus, one-third the natural size. The letters *A* and *B* are applied to corresponding parts in both engravings.

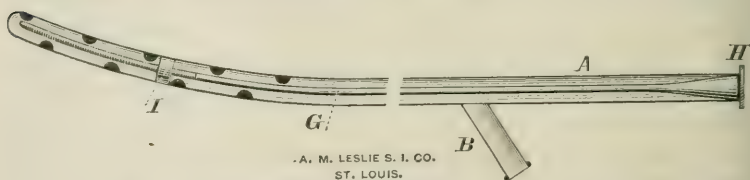


FIG. 2—Represents the canula cut open lengthwise, natural size.

The *instrument* is simple in construction and consists of a double canula. The outer canula *A* is made one-eighth of an inch in diameter; and is nine and six-eighths inches in length; the inner, *G* (Fig. 2), is about one-third this size and is one-eighth of an inch shorter. The outer canula has also an arm or branch *B*, to which a piece of rubber-tubing is attached, which dips into the vessel containing the fluid with which it is desired to inject the uterus. The inner canula has an enlargement at the

extremity *H*, which causes it to fit the outer canula closely at this point, and make an air-tight joint, it being retained in its place by friction only, which permits it to be readily withdrawn and replaced for the purpose of cleansing. The extremity *H* of the inner canula has a conical finish on its inner aspect to receive an aspirator point and provide an air-tight fitting. The distal extremity of the outer canula is provided with four rows of openings extending one and one-half inches back from the point. At *I* (Fig. 2), the inner canula is provided with a diaphragm or metal plug fitting closely into the outer tube, and screwed on the inner canula by a thread running down from its point to *I*.

The aspirator *F* terminates at its lower end in a screw point to which is attached the stop-cock arrangement, *E* (Fig. 1). This stop-cock is so arranged that, by placing the lever in the position as indicated in the cut, the aspirator is completely closed, while the canula *A* is in direct connection through the stop-cock with the outlet tube *D*. By moving it towards and in a line with the syringe, this and the canula *A* are connected; by turning it to a point opposite to *E*, the canula *A* is closed, and connection between the syringe and the tube *D* (Fig. 1) is established.

The principles applied are: 1st, the use of a *vis a fronte* instead of a *vis a tergo*, and 2d, that of causing the cavity to be injected to complete the connection between the two canulae.

To better understand the *modus operandi*, suppose the point of the canula introduced into the cavity of the womb, the tubing attached to the arm *B*, and the aspirator, with the piston closed, attached to the canula at *H*, Fig. 2. By withdrawing the piston, a vacuum is formed in the apparatus, which is felt by the liquid into which the weighted end of the tubing is plunged. The atmospheric pressure being thus removed from a portion of the fluid, this will ascend through the tubing and canula *B*, course along the space between the inner and outer canula, till it reaches the lower holes in the walls of the latter, through which it flows into the cavity of the uterus until this is filled to the level of the holes nearest the point of the instrument. It re-enters the canula through these, and finds its way through the inner canula to the syringe, which, when full, can be emptied through the outflow tube *D* into a receiving vessel, without being detached from the apparatus, by turning the stop-cock so as to connect the syringe

with the tube *D*, while it closes the connection with the canula. The lever of the stop-cock being replaced in its former position, the operation can be repeated as may be desired or required. Every drop of the fluid that enters the aspirator has swept through the cavity of the uterus before finding its way into and through the inner canula to the syringe, carrying with itself the mucus, blood, or any soluble matter which it may have encountered on its transit.

How the instrument works we have seen. Wherein the promised safety consists will be seen in the following.

The current is very gentle and can be regulated at will.

If the vacuum be broken by admitting air anywhere along the apparatus, the whole column of fluid that has thus been suspended will flow back at once into the feeding vessel, except the portion that stood below or on the aspirator side of the break. This portion, of course, follows the vacuum and rushes into the aspirator. The same thing occurs when the stop-cock is so placed as to admit air through the tube *D* to the canula *A*, or if the break is produced by detaching the syringe from the canula, or by removing the inner canula, or by reversing the action of the piston, *i. e.*, by driving the piston home, or by withdrawing the apparatus from the womb, as soon as air strikes the lower holes. In short, I may say that, whatever is done or can be done with this apparatus, is done in safety. Should the womb contract from any cause whatsoever, during the application of the instrument, this would lessen the suspending space and, in proportion to the contraction, the fluid would rush out in both directions. In comparing the working of this apparatus with the means now in use, we find that by direct injection there is always a surplus propulsive force, while with this apparatus there is always a surplus retractive force. If an obstruction occurred in the old apparatus, it was always against safety, since it prevented or impeded the outflow. If an obstruction occurs here, it is always on the safe side, since nothing will enter the womb unless the whole track is clear.

By means of this instrument the cavity to be treated may first be washed out, then any number of different fluids or medicines that may be desired can be made to follow one another by successively plunging the weighted end of the rubber tube *C* into the different bottles or vessels containing these.

The objection has been raised against this instrument that to

make it fit the cervix, and thus make an air-tight joint, many sizes of the canula would be necessary.¹ I shall, therefore, state that practice has completely annulled this objection. The one-eighth inch canula has rendered me as good service in a uterus where I could easily introduce the index finger, as in those uteri where the tube would fit closely. In fact it works as well in the vagina as in the womb.

It will be easily perceived that this apparatus fulfils all that is claimed for it in this paper, namely, that it is perfectly safe and absolutely harmless. I may add that practice has more than realized the hopes based on the instrument theoretically.

My experience with it being of necessity limited, I prefer to leave further details, as to its applicability to different cavities, its uses in surgery, its modifications necessary for the use of powders and gases, for continuous irrigation, practical results, etc., for a more extensive paper in the future.

I take this opportunity to express my thanks to Messrs. A. M. Lesslie & Co., of this city, for their patience and dexterity in producing an instrument in perfect accord with my explanations and models.

A CASE OF HODGKIN'S DISEASE IN A CHILD.

BY

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IN presenting for consideration a case of so-called Hodgkin's disease, I am well aware that the subject has been made one for assiduous study by men profoundly learned in the medical science.

But since, in spite of their most earnest investigations, they have left so much in connection with this disease, and with those allied to it, undecided, I cannot think it presumptuous to enter the wide field still unexplored.

¹ At the December meeting of 1885 I exhibited this instrument in its incipient state, and before having had any practical experience with it, to the St. Louis Obst. and Gynec. Soc., where this possibility was considered a serious objection to this instrument.

In reference to disease conditions affecting the lymphatic system, it is to be said that limitations of them can be more or less defined in the vessels or glands, as the case may be. But it cannot be easily supposed that when the one is at all seriously diseased, the other will absolutely escape involvement in the morbid process. Any conclusion to this effect would be manifestly incorrect. Especially so if the vessel be primarily affected. For just as its lymph-stream normally flows unerringly onward to the nearest gland, so also proceeds any inflammatory or other active pathological condition existing in it, to the same destination. It is quite certain, however, that a relatively greater degree of morbid action may occur within the gland structure without extending beyond it and into the substance of the vessels. This is somewhat satisfactorily demonstrable in lymphadenosis, in which the glands reach great proportions under the conditions governing the disease, while the vessels connected with them have been only in a few instances found affected. In other examples, in which they have not been found or injected at all, instead of the assumption that they were destroyed by the action of the disease, it might as well have been inferred that they had remained during life in a perfectly healthy state, but that unskilfulness, or post-mortem changes, had made it impracticable to expose them to view. The anatomical structure of the glands no doubt goes far towards accounting for the power they possess of confining within their own recesses the morbid process which is going on; though the physiological purpose they are said to naturally subserve of acting as so many reservoir-like laboratories in connection with the hæmatogenous function possibly affords even a readier explanation of it.

The relationship existing between the lymphatic glands and the spleen, as evinced by a striking similarity in structure, and probably by a corresponding physiological action in respect to the blood, has been considered sufficiently close to warrant, in the opinion of some, the belief that they belong to one and the same system, the spleen simply exhibiting, in a natural condition of things, the example of a remarkably developed lymphatic or mesenteric gland.

It is only necessary in this connection to make passing allusion to the frequency with which these organs are together found implicated in various diseases. My own conviction is, that, so

far as the matter of function is concerned, they are practically identical with each other, only differing therein, it may be, in degree of activity.

However responsive one division of the lymphatic system may be to another in disease, the task has not been left neglected of assigning to each particular types of morbid phenomena. For though, as I have said, any serious affection of one portion must assuredly, in greater or less degree, according to circumstances, become extended to another, a principal site of disease often enough exists to claim especial attention, and for the disease itself to merit a distinctive appellation in nosological tables.

In discussing lymphadenosis, any reference but the most casual and hypothetical need not be made to the lymphatic vessels, as they probably at most act simply as so many conduits through which the exciting cause of the disease is in some measure conveyed. Seldom or never are they found, for example, approximating any of the states such as our distinguished ex-president, Dr. Samuel C. Busey, has so fully described in his invaluable work on "*Congenital Occlusion and Dilatation of the Lymph Channels*," or as other authors have treated of.

The almost exact resemblance, in many essential particulars, which obtains between typical leucocythemia and lymphadenosis makes it appear an arbitrary ruling by which they are generally accepted as independent diseases. In etiology and pathology, in their symptoms, progress, and termination, there can only be the smallest, if any, distinction drawn between them. And it is my firm belief that did they occur more often than ordinarily, thereby increasing anxiety and attracting a greater amount of attention, the same reasonable difference of opinion regarding their duality would prevail that now relates to the question as to whether membranous croup and diphtheria are different affections.

When the spleen is primarily enlarged, the glands, in case they are secondarily involved are, with few exceptions, inconsiderably increased in size, and thus, in one of its aspects, leucocythemia is said to exist. On the other hand, when the glands are first affected, the spleen, if at all, is, as a rule, less evidently so, and lymphadenosis, in like manner, becomes established. To suit the occasion, as it were, in those cases in which the one condition advances perceptibly into the other, until finally they become merged, or in which both affections are simultaneously

developed or associated in a variety of other ways, the device of forming out of them so many subdivisions of leucocythemia is resorted to by the defenders of the faith in the existence of more than one disease.

It would really appear as if at different times one or the other, the glands, spleen, or medulla of the bones, perhaps became most susceptible to the morbid influence exerted, and produced in its respective way different manifestations of one and the same disease.

The considerable and permanent excess of leucocytes, which is characteristic of leucocythemia, no doubt depends upon the condition of the spleen. If the spleen enlarges in the course of Hodgkin's disease, the same preponderance of white corpuscles may be observed; the amount of their excess, over and above the normal, principally depending upon the extent of splenic enlargement.

The fatality accompanying so-styled Hodgkin's disease has not by any method of treatment yet applied been averted, except, perhaps, in a small percentage of cases. The developmental period of life is no more exempt from it than the degenerative period. And no explanation is given of the fact as to why males are numbered more largely among its victims than females. Its predisposing and exciting causes are at best imperfectly known, and its commencement is generally so insidious as to escape all recognition.

To what extent the production of the disease may be found hereafter attributable to the presence of a particular form of low vegetable organism can but be conjectured at the present time, and the same is true as to whether it may not be discovered to have a parasitical source of origin, of the nature found in cases of elephantiasis arabum—a disease chiefly involving the lymph channels, and which in tropical countries reveals as one cause of its appearance the parasite *filaria sanguinis hominis*.

The history of the case which I now have the pleasure of recording presents a little of interest, beyond the ordinary run of features.

Alice P., æt. 11 years; mother died eight or nine years ago of phthisis pulmonalis; father still living, but very dissipated.

Her condition attracted no particular attention until towards the latter part of the month of February, 1885, when she complained of sore throat and malaise. On examination, the pharynx

was observed to be congested, and the left tonsil somewhat enlarged and inflamed, the right one less so; the submaxillary lymphatic glands were increased in size, more especially below angle of jaw on left side.

Submitted to treatment at my hands the following March, and expressed herself then, as she does now upon inquiry, as feeling generally very well. The thermometer, however, displayed a slight rise of temperature, and she was pale and evidently anemic, but withal bright and cheerful in spirits. The glands were now very prominent on left side of neck, and in the right axilla they were also found considerably enlarged, but nowhere else were they apparently different from the normal. The spleen *was* somewhat enlarged. A scaly rash covered the back.

In consultation with Dr. George Byrd Harrison, the diagnosis of Hodgkin's disease was at once agreed upon, and she was forthwith given Fowler's solution, combined with the bitter wine of iron, to be taken three times a day. The propriety of extirpating the worst affected glands in the neck was briefly discussed and decided in the negative, on account of the evidence presented of widely-spread disease. Later on the diagnosis was concurred in by Dr. Charles E. Hagner, who also approved of the treatment adopted.

Meanwhile, the administration of the remedies has been persevered in without interruption; her diet has been a palatable and nutritious one, and in all respects her hygienic management has been unexceptionable.

The result is, that her general condition has greatly improved, but the glands, while perceptibly reduced in size, still present to view threatening proportions. The rash disappeared, after taking the medicine, in a short time. The urine has been tested once only, and was then proven to be free from albumin. The initial examination made of the blood revealed a marked increase of the white corpuscles, but each subsequent one has shown a steady diminution in their number, until now they apparently do not exceed the normal ratio. The red blood-corpuscles present a crenated appearance, but do not seem to have undergone any numerical change.

An interesting question is, what effect might the supervention of a first menstruation have upon the progress of the malady? It is known that a greater susceptibility to *leucocythemia* is created by the natural cessation of the function.

Admitting, if only for the sake of argument, that the two diseases are really identical, and that the vital forces, under the circumstances attending the initiation and termination of the menstrual function, exert quite opposite influences in the economy, it would appear that the susceptibility to the disease attaching to the one period of life would not be evinced so

strongly at the other, and that, indeed, a remedial effect would accompany the puberal flow of the menses.

In conclusion, I will venture to formulate the following propositions:

1. That leucocythemia and lymphadenosis are different names for the same disease.

2. That this (single) disease may, and does often, appear in modified forms.

3. That inasmuch as it remains undecided whether this disease is primarily local or general, it may on that account, if none other, be, for the present at least, relegated to the same category with carcinoma.

A NEW METHOD OF TREATING AGGRAVATED ANTEVERSION.

BY

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IN the month of April, 1884, a patient, Miss S., about 28 years of age, came under my care for uterine trouble. Her history for the past eight years had been one of almost continuous suffering, notwithstanding the efforts of her medical advisers. For the past two years she kept her bed most of the time, the recumbent position being the one that made life the most tolerable.

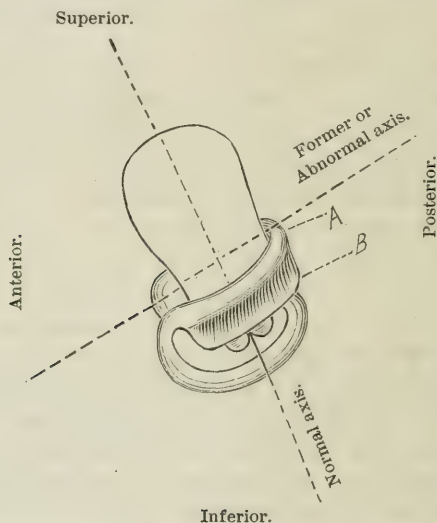
On examination, I found that she had anteversion of an exaggerated character, that is, the cervix pointed upwards and backwards instead of downwards and backwards. The irritability of the bladder was constant, and the pain over the pubis severe. Examination of the fundus, which first met the finger, showed it to be tender and hard, especially after menstruation. When this tenderness existed, it was always associated with two little tumors, one on each side of the fundus. It became an important question to myself what these tumors were. Were they constant, or were they the ovaries enlarged and inflamed? Sometimes they were quite large, and at other times between the menses they were almost imperceptible.

I concluded early that they were the ovaries in a congested condition and, being glandular, became enlarged by the contiguity of the metritis and the endometritis which was present the greater part of the time. She never had her menses without having an attack of inflammation and great pain in front over the pubis and

the left side, which she learned to subdue with quinine and opium internally, and hot fomentations. Every morning, about four o'clock, she woke up with a pain, and several times during the month she had pains that were concentrated agony. These last pains I concluded were attacks of uterine colic brought on, no doubt, by the uterus attempting to expel its inflammatory products. After these attacks, which she always treated with hot fomentations, I noticed a bluish, degenerated-looking uterine discharge. This, together with the uterine colic and the difficulty I had in passing the sound, led me to the conclusion that there was obstruction of the internal os in addition to the anteversion, the metritis, the endometritis, and acute inflammation and congestion of the ovaries, more especially the left. My conclusions were as follows: The uterus is naturally a contractile organ. Any inflammation of its body or lining membrane would irritate the uterine muscular fibre so that it would contract and continue in a state of contraction while the irritation lasted. The os internum remaining in a state of contraction and in a state of chronic inflammation, the result would soon be complete obstruction; the uterus and its contents becoming like an abscess for the time being, the purulent matter being discharged through the internal os, the point of least resistance. Now the absorption of the purulent contents of the uterus by the lymphatics would easily produce an altered condition of the ovaries, setting up oöphoritis, and in the uterus metritis, and in the adnexa cellulitis, peritonitis, etc. Having arrived at these conclusions, I determined to dilate the internal os, inflammation or not, as it appeared to me to be the proper step; consequently I provided my patient with opiates and quinine, and tried one of the dilators made on the glove-stretcher principle; but alas! three weeks' inflammation resulted, but after the next menstrual period there was less disturbance, and the uterine colic was very much relieved. In the mean time I tried my own and many other pessaries, and a baker's dozen of original designs. The difficulty of wearing an instrument was due to the metritis and bladder in front, congested and inflamed ovaries at the sides, and who ever heard of supporting an anteverted uterus from behind in Douglas' *cul-de-sac*, the only spot that didn't hurt in her case? The form of this support was a ring attached to a stem like the handle of a door key, the posterior *cul-de-sac* resting on the top of the ring, or in other words, I supported an anteverted uterus by the utero-sacral ligaments. This gave two months' great relief, but the colic came back again, and another dilatation was attended by so much disturbance that further interference was postponed until the fine weather in May. Another attempt at dilatation succeeded well. I used this time instruments devised by myself, using three sizes consecutively, with the very best success. The patient did very well with the key-handle-stem pessary, but was far from comfortable, as the left ovary was always in the way, so I concluded to try my soft-rubber Gehrung pessary, bending the soft-rubber

apron down so that it would slip up easily into Douglas' pouch behind the cervix. It served two purposes: first, it held the cervix in its natural position downwards and backwards, and second, it elevated the uterus by its utero-sacral ligaments, lifting the cervix entirely off the posterior wall of the vagina; the cervix being now held steady by the pessary.

I instructed my patient to introduce daily two or three pledgets of cotton batting (not absorbent cotton), smeared with glycerin, against the front of the fundus uteri, by means of a short medium-sized cylindrical speculum. This cotton pressing against the anterior surface of the fundus uteri pushed it up into its natural position, the cervix being compelled to retain its natural position by the pessary. This result was obtained in the month of September,



This diagram shows the modified soft-rubber Gehrung applied in this case, with the superior branch A applied behind the cervix in Douglas' *cul-de-sac*, instead of anteriorly as originally intended in these cases. Depending from the superior branch A is the flexible apron B. This apron prevents irritation of the posterior portion of the cervix.

1885, and I have waited now eight months before writing the case up for the profession, as I wished to present a permanent result.

This young lady has since returned home, has attended to her duties daily, and has hardly known what it is to spend a day in bed. She attends church, and teaches in Sunday-school. In the month of February this year, and once or twice during the winter, the uterine colic returned, which shows that her old enemy, the uterine obstruction, is not completely conquered yet. I have operated on her since for the obstruction, and expect to have to do so occasionally for the next year, or perhaps longer. She still continues in the enjoyment of her greatly improved state of health.

Another feature of this case was irritation about the lower part of the dorsal region. There was no constant pain, only a tenderness over the spinous processes. After relieving her of the worst features of her uterine trouble, and expecting her to take out-door exercise, I was met with what she described as a weakness of the spine. "Well," I said, "that must be helped too." Since last fall she has been supported by plaster-of-Paris jackets. This enabled her to have complete command of herself. I am sure the spinal irritation has been an element in the uterine obstruction from which she has suffered.

Now I will finish this, to me, remarkable case by offering a new physiological explanation of the mechanical principle that enters into the sustentation of a movable body like the uterus in a round cavity like the pelvis.

The principal supports of the uterus are the broad ligaments on either side. They are attached almost from the top of the fundus to the cervix, and extend laterally to the sides of the pelvis, while the utero-sacral and the utero-vesical are attached in front and behind just above the utero-vaginal junction. The broad ligaments are vertical in the natural position, or if not vertical, incline slightly to the bladder, the filling of which tends to keep them vertical. When vertical, they are a tower of strength to the uterus, but let them become horizontal with the small intestine resting upon them, reinforced by a full bladder folding over them, and the ever-constant force of inspiration, their strength is practically gone, or, in mechanical words, they are to the uterus what the Howe truss when vertical is to a bridge. Flat or horizontal, they proportionately lose their usefulness for sustaining the weight, just as a truss would in a bridge if laid flat. The broad ligaments are the Howe trusses of the uterus. In my patient I rotated the uterus on its long axis (see diagram) by holding the cervix behind with my pessary modified, and pushing up the fundus in front with cotton, thus rendering the broad ligaments, the uterine trusses, vertical. When vertical, the bladder and small intestines gravitate so as to assist in keeping them up; when flat or horizontal, the whole superincumbent weight of bladder and small intestines comes on the broad ligaments to their great damage. Without holding the cervix in the pessary, and applying cotton only, the whole structure would be elevated in the abnormal or flat position, and the rotation of the long axis of the uterus would not be secured, nor the broad ligaments become vertical.

The permanent nature of my patient's improvement, also the fact that anteversion has never been treated before by a pessary applied in Douglas' cul-de-sac, combined with cotton applications against the fundus in front, makes my contention clear that rotating the uterus on its long axis (see diagram) so as to bring its natural trusses, the broad ligaments, vertical, is the most physiological and rational explanation, and the most natural treatment for the so-called incurable or worst forms of anteversion.

PARKDALE, April 13th, 1886.

THE PERINEUM AS A SUPPORTING STRUCTURE.¹
SOME OF THE METHODS OF PERINEORRHAPHY AND COLPORRHAPHY.

BY

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To that great surgeon, Ambrose Paré, is due the credit of having first devised and executed an operation for the cure of laceration of the perineum. But neither he nor any of his immediate followers made any operations, except they were crude, imperfect, and unsatisfactory. The first real progress towards determining what were the necessary steps to be employed, was brought to light some forty years since. Barnes tells us that Charles Brooke had worked out the principle, and perfected a successful proceeding, about this time. In 1854, Baker Brown published his memorable work, "The Surgical Diseases of Women," containing an account of his method. Dieffenbach and Langenbeck preceded him. Simon was his cotemporary. But it was Baker Brown who, in the face of much professional opposition and condemnation, most clearly enunciated the importance of the recognition of the damages of a ruptured perineum, and the necessity for its repair by a surgical procedure. That his methods were imperfect all must now know, for any one now making a perineorrhaphy, as represented in the diagrams given us by him, would show an inexcusably defective knowl-

¹ Read before the Obstetrical Society of Cincinnati, March 11th, 1886.

edge of the normal anatomy, physiological function of the perineum, and how it ought to be repaired when destroyed.

After Baker Brown, among those who have contributed to our knowledge in this direction notably stands Dr. Savage, of London. His demonstration of the fact that the perineum is a body, a triangular, wedge-shaped structure, composed of muscles, fascia, connective and elastic tissues, filling the intervening space between the rectum and the vagina, was a great forward movement.

Based upon these facts, his plan of operation, says he, "is the only one which appears effective in bringing together again at the ano-vulvar perineum the two ischio-perineal ligaments; shortening the elongated sacro-pubic line, contracting the ano-vulvar perineum to something approaching its natural dimensions, leaving ample vaginal aperture, although it causes the posterior segment of the vagina to approach the pubis so as to offer an effectual obstacle to the prolapse before it can make the final turn under the pubic arch." He contrasts, and very properly, his operation with the earlier ones, in which the capital error of constricting unduly the vaginal aperture was made.

Thomas, in his peculiarly clear and graphic style, dwells upon the above-mentioned special conformation of the perineum, its anatomical supporting structure, likening it unto the key-stone of an arch, sustaining the vaginal column above, and through it the attached parts and organs. By his writings and teachings, this gentleman has placed himself foremost in the ranks of those who believe in the direct, immediate, and great supporting powers of the perineum, and his operation of perineorrhaphy (not unlike that by Savage), contemplates the rebuilding of a structure, intervening between the rectum and the vagina, which is at once firm and sustaining.

But to what extent is the perineal body a supporting organ? This is one of the mooted questions in gynecology of to-day. Within recent years there has been a growing tendency to discard, at least in a measure, the direct supporting power which we have been supposing this body to possess.

In looking over my perineal operations, I can distinctly recall to mind three cases of complete laceration of this structure, involving also, to a varying degree, the recto-vaginal septum—in one nearly two inches. The injuries had occurred, of course, during deliveries, and when the operations for repair were

made, had existed, respectively, thirty-six, nearly twenty, and ten years. In all, those symptoms common to, inseparable from, a destruction of the sphincter ani were present, but in no one was there any uterine or vaginal displacement. Now, cases of this kind are not exceptional, although comparatively uncommon. More numerous, of course, are instances of partial laceration with no resulting displacement. It must long ago have been noticed that there is often a very wide disproportion between the degree of perineal laceration and the pelvic conditions and symptoms supposed to be results. The question may be very pertinently asked: Why, if the perineum is such a needful support to the vagina and super-incumbent pelvic viscera, do not the vaginal and uterine displacements invariably follow after years of practically total destruction of its integrity? And another question directly in this line of inquiry may be put: Why do we so frequently have great and serious displacements of these organs, when the perineum proper has suffered little or no injury? The answer must be: (a) The perineum does not possess that supporting force claimed by some for it; (b) Other factors than its injury lead to displacements.

It is a fact that with vaginal and uterine subinvolution, displacements are most frequent associates and results. But, does this subinvolution occur in consequence of the loss of perineal support, or as a direct result of the laceration of the vaginal surface of the perineal body—the septic changes, the granulating open wound?

Hart and Barbour say: “The functions of the perineum are important, but have been exaggerated and underrated. It gives a fixed point for many muscles, prevents pouching of the rectum forwards, and strengthens that part of the pelvic floor which has no posterior bony support.”

Further on, they say: “Many allege most erroneously that the vagina supports the uterus. The chief support is the compact, unbroken pelvic floor, on which the uterus rests as one sits on a chair. It is the whole pelvic floor that supports the uterus and viscera, and not the perineum alone. The perineum is only a small but strong part of the sacral segment of the pelvic floor.”

Most prominent among those who oppose the doctrine of the supporting function of the perineum is our distinguished countryman, T. A. Emmet. He thinks it can be shown that the perineum gives no support to the uterus, directly or indirectly.

It is a movable organ, does not rest upon anything, and possesses no strength within itself beyond what is obtained by its attachments to the pelvic fascia. Its chief province is to give the needed support to the curve of the rectum in defecation, and in upright positions of the body preventing encroachment of that organ on the vagina.

Schatz, of Rostock, recently (Oct. 6th, 1883) in a paper on "Lacerations of the Pelvic Floor in Childbirth," coincident with the time of a paper read by Emmet, spoke of the significance of these lacerations of the pelvic floor, their connection with displacements of the pelvic organs, especially prolapse. He thinks they are more important than lacerations of the perineum. Similar utterances have been made by Dr. B. E. Hadra, of San Antonio, Texas ("Injuries of the Pelvic Diaphragm," *AMERICAN JOURNAL OF OBSTETRICS*, April, 1884), by Dr. Wylie (*N. Y. Medical Record*, March 28th, 1885), and by Dr. A. J. C. Skene (*N. Y. Medical Journal*, April, 1885). Matthews Duncan has also expressed views as against the supporting power of the perineum.

A satisfactory explanation of the conduct of cases like unto that previously mentioned—non-interference with the position of the pelvic viscera, under conditions of long-existing and complete perineal ruptures, and the presence of much displacement when there has been no impairment of the integrity of the perineum itself—has been wanting until of recent years.

If, then, the perineum is not the support in kind, and especially in degree, which it has been supposed to be, what are the immediate and remote results of its destruction by laceration?

First. There is, by virtue of the lateral traction of the transversus perinei muscles, a gaping vulvar orifice, entrance of air within the vagina, and consequent vaginitis. The existence and extension of the laceration along the posterior, or latero-posterior vaginal walls—an injury which seldom heals save by granulation, and still more seldom by complete union—affords a local focus for sepsis and inflammatory action, very often eventuating in vaginal subinvolution.

Second. The more or less destruction of the wedge-shaped, pyramidal body, by a split extending partly or completely through the centre or side of its structure, leaves that portion of the posterior vaginal wall, which in a normal state lies in imme-

diate contact with, and supporting the anterior wall, in a position drawn back, retreating away from its fellow. The immediate tendency of this altered position and relation is to permit of a sagging of the anterior vaginal wall. If the perineum, according to Emmet, does give a needed support to the curve of the rectum in defecation and in the upright position of the body, it is most evident how perineal impairment, especially when there is constipation, straining at defecation, and much maintenance of the upright posture, will force a forward and downward bulging of the posterior vaginal wall (rectocele).

Further development in this displacement of the posterior wall favors an increase of the same in the anterior (cystocele). That these changes in position, and, also necessarily, in the structure (subinvolution) of the vagina, do eventually, by downward traction, bring about uterine dislocation, although none existed at first, I think there can be no doubt.

But are the majority of uterine displacements resultant on perineal lacerations? No. The uterus obtains no direct support whatever from the perineum. This organ is suspended in the centre of the pelvis through the pelvic floor. The perineum lies largely below the pelvic floor. The latter structure is designed architecturally to bear the weight of intra-abdominal pressure from above, as well as allow for parturition. Its arrangement and formation are a compromise between these two functions. Not all parts of it are equally strong. Cleavage is greatest (Hart) where the anterior rectal joins the posterior vaginal wall. It is to injury of some kind in this structure: over-distention, undue stretching, laceration in some part of the levatores ani, or pelvic fascia, separation of these muscles in their central connection—all largely confined to parturition, that we are to look for the real and immediate cause of most cases of uterine dislocation. To one who always carefully examines the exact condition of the vagina after parturition, especially after some forceps deliveries (pelvic impaction in primipara, forceps oblique), long and deep rents will oftentimes be detected along the posterior and latero-posterior walls, even when the external perineum (the skin surface) has sustained little or no laceration. I do not think it admits of any serious reasonable doubt that the deep pelvic fascia and the levatores ani muscles do give away, or are separated, subcutaneously, at times from their attachments, or from each other; and finally,

that the vagina and the rectum in their lower portions may similarly become more or less detached from their muscular and fascial connections.

After such injuries, attended, as they must be, by imperfect repairs, whatever augments the uterine bulk and weight, whatever increases the intra-abdominal pressure from above, especially straining at stool from constipation, further stretches and weakens the pelvic floor, intensifying all the ill effects of the original injury.

It will be safe, I think, to formulate the following propositions:

1st. As the perineum is made up of muscular and other tissues, entering into the lower structure of the pelvic floor, it follows that lacerations of it do impair, both directly and indirectly, the forces which sustain the vagina, and through this organ, the bladder and the rectum.

2d. Perineal lacerations, even complete ones, may occur, and not be followed by any pelvic displacement. Complete splitting of the sphincter ani, leading or not to rectal incontinence, greatly diminishes the chances for vaginal displacement, in that it lessens ordinary intra-abdominal pressure, at rectal evacuation. The absence of any change in the vaginal walls implies that the laceration, however extensive, has involved, to a great extent, only the base of the pyramidal body.

3d. Perineal lacerations do not produce uterine dislocations directly. Through vaginal subinvolution, the formation of a rectocele, a cystocele, then traction upon the pelvic floor, they may do so indirectly.

4th. Uterine displacements, to a great degree, and vaginal displacements to considerable though lesser degree, are due to a weakening of the pelvic floor or diaphragm (from which the first-named organ is suspended), by injuries sustained chiefly during parturition, but aggravated by causes operative afterwards.

The importance of these injuries of the perineum proper, and particularly of the pelvic floor, seem now to be generally appreciated. Judging from the many different methods of surgical procedure which have been devised and put into execution in repairing them, one would suppose there were little left undone.

It is a matter of curious interest to study the representations

of the differently-shaped surfaces for denudation, some with, and some without, flaps of skin and mucous membrane, varying in size and shape. And then there are as many, or more, ways of placing the sutures, and the various devices to secure the same. But much of this work in the past, while it has been useful in its way, is at the present but rubbish, to be cleared away. Reference has been made to the operation of Baker Brown, insufficient in its aim and results, securing at best only a thin, weak, skin-like perineum. The history of at least some of these operations, however, demonstrates the fact that success may be obtained by one of a number of methods, and that the operation can be altered materially, according to the case and condition.

Good results in perineorrhaphy, as in all plastic and uterine surgery, depend upon the attention to many little details, before, during, or after the operation itself. But aside from all these, the two chief features of the operation consist in a thorough denudation of a surface, proper in size, shape, and location, and the correct adjustment of the sutures.

When the base of the pyramidal body only is torn, and there is little or no vaginal prolapse, the shape of the surface pared and sutured, as represented by Savage and Thomas (Fig. 67), is generally admirably adapted to meet the exigencies of the case. But in a much larger proportion of the cases which, by virtue of local discomfort and general symptoms, most require operative relief, there are secondary changes in the vagina: redundancy of tissue, and prolapse with sagging of the pelvic floor. And as the tears which have produced these conditions were more vaginal than external, it seems reasonable to suppose that the repairs for the same should extend largely in the same direction. The need of preparing a denuded surface, larger in extent than the original rent would be, after the parts had contracted by involution, seems apparent. Two very common errors are made: one, to denude the vulvar orifice too far forward, and to take off too much skin; the other, not to extend the vaginal dissection sufficiently upwardly. The width of the denudation at the vulva should be regulated partly by the depth of the original rupture: usually only to the old caruncles; in exceptional instances, as for the relief of procidentia uteri with great cystocele and rectocele, further forward.

The height and width of the denudation within the vagina,

along the posterior wall, is to be controlled by the size of the rectocele, the degree of vaginal prolapse, and sagging of the pelvic floor; the depth, by the redundancy of tissue. Free and thorough removal of all mucous and most submucous connective tissue is needed.

Not only the crest of the rectocele, but the uterine aspect of it, may be pared, although less tissue in width, as well as in depth, is to be removed the further the dissection is extended upward. The depressed angles at the sides of the rectocele are always to be cleared. Care, of course, should be taken to have the two lateral surfaces symmetrical.

The shape, then, of the denudation will be triangular, or pentagonal, not materially unlike that of Hegar or Simon.

Although recommended by some skilled operators, I fail to see the advantage of making loose vaginal flaps, utilizing them in reconstruction, expecting thereby to obtain a firmer substructure. To a considerable extent, all the tissue removed, or to be removed, is cicatricial and redundant, and a proper dissection leaves an underlying surface like unto the rent (but more symmetrical) when perfectly fresh, the bottom being laid open to view by a free separation of the parts.

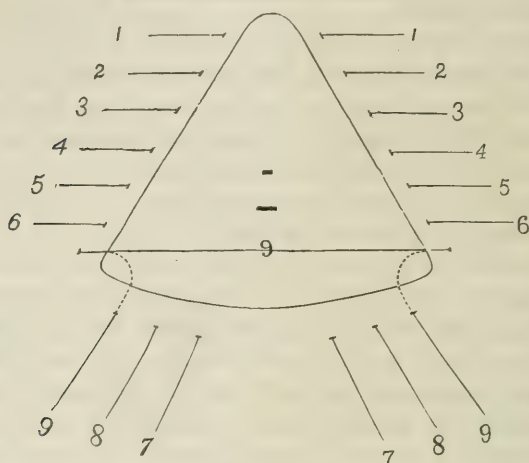
Should there be but comparatively little destruction of the perineal base, and the vulvar orifice in consequence remain of fair dimensions, while the vagina is much relaxed, displaced, and the pelvic floor weakened—conditions by no means infrequent, and consequent on injuries confined mostly to the pelvic floor—the shape of the denudation should be somewhat oval, the greatest width resting well up within the vagina.

Old cases, from a yearly aggravation of the local conditions, require usually greater dissections.

Now, as to the adjustment of the sutures. Thorough and complete coaptation of the undenuded borders of two lateral denuded surfaces, such as has been described, can be effected only by the use of vaginal sutures. And these may be so placed as *not only to bring these borders together, edge to edge, but take up and bring into apposition the ruptured, separated muscular fibres and deep pelvic fascia of the perineum and pelvic floor; to reconstruct a new pyramidal body, in substance sufficient to fill the normal interspace between the rectum and the vagina—a body not only wedge-like in shape, but WEDGE-LIKE IN ACTION, THE TRUE FUNCTION OF THIS STRUCTURE.*

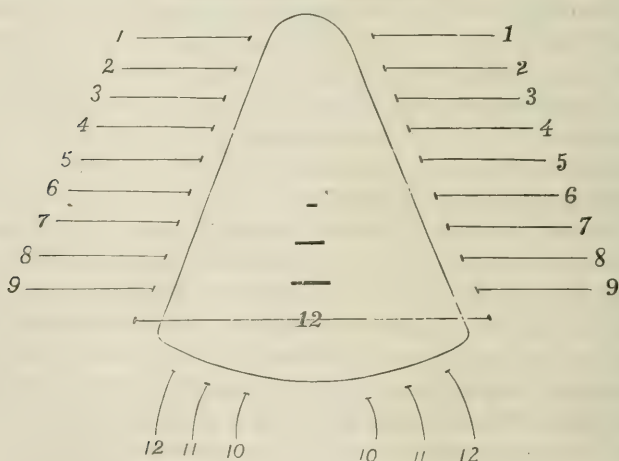
Semicircular needles (one and one-fourth inches to one and one-half inches, or more, in length), armed directly with silver wire (No. 24-26), are seized with a stout needle-forceps (at right

Shorter Triangular Denudation.



[Suture No. 9 enters the integument, and makes its exit on undenuded mucous membrane in the vagina, about one-fourth inch below No. 6. When the triangle is folded together, all of this suture shown running across the base of the triangle is drawn out by tightening the outward ends.]

Longer Triangular Denudation.



angle to the needle), and inserted transversely to the long axis of the vagina, into the undenuded mucous membrane, about one-

fourth inch from the denuded border, then passed deeply underneath the denuded surface, through the underlying septum and out at a corresponding point on the opposite side. Commencing thus from above, suture after suture, each being about one-fourth inch apart, is inserted, until the lower vagina, near to the vulvar orifice, is reached. The sutures are now tightened by twisting the wire, cut off short, turned down on the flat as in the operation for vesico-vaginal fistula. During this process of twisting of the sutures, the bulging, convex surface of the rectocele and whole posterior wall is kept depressed and concave with the tenaculum, so that the lateral denuded surfaces can readily approach each other.

Finally, one, two, or three, not more than that number of sutures (unless it is intended to make a small vulvar orifice, as for procidentia, or unless the perineum has been completely ruptured), are placed from without, through the integumentary portion of the perineum, the whole suture being imbedded in the ordinary way, except the last one, which encircles the remaining ununited vulvar and vaginal edges.

Light wire is also used for these external sutures, and an effort is made to twist none too tightly. (See diagrams.)

When the rupture is complete, through the sphincter ani and vagino-rectal septum, one or two Emmet stitches are first passed, to gather up the sphincter ani; and it may be, also, some are placed transversely into the septum, these last being silk, and tied on the rectal side. The remaining portion of the operation is as has been detailed.

Sutures which are external are removed in from seven to ten days; the vaginal in from ten to fourteen days, by elevating the anterior vaginal wall with a small Sims' speculum.

The advantages of this method of placing the sutures (the greater number by far being intravaginal and not external), besides those already mentioned, are: less after-swelling and pain, greater ease in self-urination, and little or no pocketing of the posterior vaginal wall within the vulva. In my experience, a thicker, stronger perineal structure is built, and a better vaginal support is given, than by many other operations.

This is the operation which I have now settled down upon for lacerations of the perineum and vagina, and injuries of the pelvic floor, with their results. I commenced to use vaginal sutures in this way in a perineorrhaphy operation, on November

30th, 1878, and have since gradually extended their use in similar cases. And while I have in a considerable number of cases used other and different methods of denudation, and especially of suture adjustment, I have with them obtained less satisfactory results.

Thus, while the method of adjusting the sutures recommended by Goodell ("Lessons in Gynecology," p. 105) possesses the advantage of accurately coaptating the parts, giving excellent results in the primary operation, it seems to me to be open to the disadvantage of puckering and pulling down the parts, shortening the posterior vaginal wall, when practised for the secondary operation. The same is true, though to a less extent, with the ordinary method.

With Emmet's new operation, for which much is claimed, I have had no personal experience. Doubtless it possesses some very valuable features, as removal of the rectocele, etc.; but it is not so well adapted to deep ruptures, and does not restore so perfectly the shape of the introitus vulvæ. Nor am I convinced as to the relative frequency of lateral perineal ruptures of which he speaks.

It will doubtless be said that the operation described is a perineo-colporrhaphy. Such it is, in most cases in which any operation is required.

As the perineal body is only about one and one-half inches vertically (Hart), any denudation above its apex must be a colporrhaphy, technically speaking. For reasons given, dissections to a point higher than one and one-half inches are often needed; but whether done or not, the same general plan of the operation, both in the shape of denudation (modified to cases and conditions), and the arrangement of the transverse vaginal sutures, is adopted.

If pocketing or pouching of the vagina remains after perineorrhaphy, as results of puckering of the tissues or want of union of the denuded edges, a hollow space is left above the outer or skin perineum, which sooner or later fills up, by a downward folding of the recto-vaginal septum. A progressive prolapsing of the posterior wall goes on, meeting a barrier only at the contracted vulvar orifice. Though, to outward appearance, the condition of the parts is an improvement upon what existed prior to the operation, to all practical purposes there is little or none. The pelvic floor is as weak as before, and the vagina,

rectum, and uterus as imperfectly supported. The patient complains of the same pelvic weight and discomfort.

The operation described will, I feel sure, prevent this sagging of the posterior vaginal wall and pelvic floor, by re-uniting its muscular and fascial connections, thus largely, if not entirely, restoring the functions of these most important structures.

TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF PHILADELPHIA.

Stated Meeting, April 1st, 1886.

The President, B. F. BAER, M.D., in the Chair.

DR. E. P. BERNARDY read a paper on

THE VALUE OF BINIODIDE OF MERCURY AS AN ANTISEPTIC IN OBSTETRICS.

Dr. Bernardy first called attention to his paper on this same subject, read before this Society on June 4th, 1885, and said that the claims which he then brought forward with hesitancy, had since been fully substantiated. He again advocated the biniodide, not now as an unknown and untried antiseptic, but as one which had proved itself far superior to any other antiseptic which he had used in his obstetric practice. He had learned that the biniodide had been used during the past year at the Lariboisière Maternité of Paris in preference to all other antiseptics, and the results obtained had been highly favorable. He then gave the histories of eight cases where he had found it necessary to use the biniodide on account of high temperature, pain and tenderness about the uterus, and excessively fetid lochia, and in all of these, after a few douchings, the symptoms abated, the lochia in each becoming free from odor. These cases, with the three he had before reported, confirmed his opinion of the great value of the biniodide; it was much less irritating, and twice as powerful an antiseptic as the bichloride.

As it was very difficult to make a solution of the pure salt in the manner which he had before recommended, Mr. J. F. Hayes, of St. George Pharmacy, had conducted a series of experiments for the purpose of placing the biniodide in the hands of physicians in a convenient and readily soluble form. To obtain this end, pellets were made of three different strengths. In making them, sufficient iodide of potassium was added for the purpose, though not enough to cause any chemical change with the biniodide. The

following was the method pursued in making the pellets. Both salts should be perfectly dry. The potassium iodide was first placed in a mortar which has been slightly warmed (just enough to take the chill out of it), and thoroughly powdered; the biniodide was then added and well mixed, but not rubbed hard, or the powder would be apt to cake. Care should be taken not to compress the pellets too hard; they kept just as well and were more easily dissolved when they were compressed just hard enough to make a firm pill. The following is the formula for the pellets:

$\frac{1}{4000}$ = mercuric iodide $3\frac{1}{2}$ grains, potassium iodide 2 grains.
Mix as above, and compress in pellet.

$\frac{1}{8000}$ = mercuric iodide $1\frac{3}{4}$ grains, potassium iodide $\frac{1}{2}$ grain.
Mix as above, and compress in pellet.

$\frac{1}{15000}$ = mercuric iodide $1\frac{6}{2500}$ grains, potassium iodide $\frac{1}{2}$ grain.
Mix as above, and compress in pellet.

In this form the preparation could easily be carried in the satchel. When required for use, one pellet should be added to a quart of hot water (110°). It dissolved easily, and did not stain the clothing or bedding.

The strength which Dr. Bernardy generally used was the $\frac{1}{4000}$. Should it appear too strong, the pellet could be cut in half or twice as much water used, thus giving a $\frac{1}{8000}$ strength.

DR. CHAS. HERMAN THOMAS had heard the statements of Dr. Bernardy with interest, and surprise that cases of so much gravity could be controlled by such simple means as vaginal injections. His practice and belief has been that such cases require the introduction of washes into the uterus, the washing of the vagina being utterly futile. The doctor related an instance in which a IVpara was allowed to die of septicemia, no effort being made to wash out the uterus, although vaginal antiseptic injections were frequently employed in the case. Six weeks have elapsed since the death of that patient, and in that time the same practitioner has lost three additional parturient patients.

DR. LONGAKER spoke in support of Dr. Bernardy's practice. We have been led to expect a prompt fall of temperature from the use of intrauterine injections in septicemia post partum. His own plan is to discontinue intrauterine injections after the first thorough washing, unless offensive discharges come from the uterus. He has observed that, after the repeated introduction of forceps into the uterus, the introduction of the hand, or other means favoring the introduction of air, a peculiar traumatic metritis results, and to relieve this he has been in the habit of introducing into the uterus an iodoform pencil, containing about one and two-third drachms of iodoform; this prevents future sepsis (see Lusk, last edition). Prompt lowering of temperature and pulse are the result if this is used after sepsis has occurred, and even when antiseptic uterine injections have failed. The effect of one of these pencils will last through two or three days, when another may be needed.

DR. HOWARD A. KELLY drew attention to the fact that the biniodide of mercury is almost, if not entirely insoluble in water, and that an alcoholic solution would scarcely be admissible. He also called attention to the frequent presence of the bichloride as an impurity. He read the following letter from Dr. Francis L. Haynes.

"In reference to the potassio-mercuric iodide, I may add a little to the facts I mentioned in our conversation. The last case of puerperal septicemia I have seen in my own practice occurred in Mrs. F., December 18th, 1885. It was due to the fact that my hands were contaminated with septic matter, and that I trusted entirely to hard scrubbing and to inunction with oil of turpentine to purify them (after Goodell). In this case the pulse was 138, and the temperature ran up to 105°, but she recovered in a few days under copious injections of hot water into the uterus (generally plain, but sometimes with a little carbolic acid added). Three injections were given, and during the days on which this treatment was being used, I attended several cases of labor, purifying myself with ten-per-cent solutions of carbolic acid. These cases had no trouble; but I became ill, as I always do when I use much carbolic acid, and my hands became sore. I now began to use the potassio-mercuric iodide solution to purify my hands, and since then have had no trouble whatever, although I have attended cases of labor within a few hours after (1) washing out the uterus of a patient of Dr. L.'s, suffering from septicemia (terminating fatally); (2) after amputating finger and metacarpal bone of a man suffering from gangrene of finger and suppurative cellulitis of the hand and wrist; (3) after digging out putrid placenta after miscarriage (several instances); (4) after performing autopsy in a case of suppurative peritonitis and bathing my hands freely in the pus. The solution may be used without apparent injury to purify blunt instruments, and it is certainly a great comfort to soak your speculum thoroughly in it after treating a case of gonorrhea.

"How is the solution prepared? A four-ounce bottle is marked with a diamond so as to indicate drachms, and filled with distilled water containing 3 i. each of potassium iodide and mercuric iodide (the cost of this solution is less than ten cents). It is now a very easy matter to make a solution of any desired strength extemporaneously: A tablespoonful to the pint = one part to one thousand, is the strength I generally employ, but after autopsies I use one to five hundred.

"How do I prevent my hands from becoming eczematous when using this solution? Once or twice daily after washing the hands and while they are still damp, about fl. 3 ss. of glycerin is poured into the palm and thoroughly rubbed into the whole surface of the hands, which are then dried as usual. This is very effectual."

DR. WM. GOODELL has had no experience with biniodide of mercury, but has had with bichloride. He is not sure that Dr. Bernardy is at fault in confining his antiseptic injections principally to the vagina, for where does sepsis usually take place? Not in the uterus, but through wounds of the vagina. In the Charlotte Hospital they have good results from the use of bichloride injection and iodoform. When the Preston Retreat was new, they had a good record, but afterwards the percentage of fatal cases became too large. This fault was remedied by the use of bichloride of mercury as a vaginal injection, and the introduction of 3 i. of iodoform. The pads to catch the lochial discharges were replaced by absorbent cotton medicated with corrosive sublimate. In the last one hundred and forty cases no rise of temperature has occurred during the puerperal period. In these cases the antiseptic applications were all directed to the lower portion of the womb and the vagina. Dr. Bernardy is probably right. A solution of

one to two thousand is too strong, and will produce soreness after operations. He does not like to have the patient on her side during and after the removal of the after-birth, as it favors the entrance of air into the vagina, as in Sims' position. She should be on her back.

DR. HARRIS inquired if Dr. Bernardy did not use uterine injections after the removal of the dead fetus. The effect of a decomposing fetus, with unbroken membranes, within the uterus has a remarkably prostrating effect upon both mind and body of the mother.

DR. GITHENS described a case of post-partum septicemia, in which an offensive leucorrhea which had existed before labor and which had been neglected was the cause. In this case vaginal injections of potassio-mercuric iodide quickly relieved the undesirable symptoms.

DR. THOMAS thought vaginal injections would be quite sufficient as a prophylactic agent, but would they be considered sufficient if septic peritonitis were present? One thorough uterine wash first, and then iodoform pencils to prepare for subsequent vaginal washes. In Bellevue Hospital uterine injections are always used when vaginal washes failed to reduce the temperature.

DR. BERNARDY uses the first injection himself and thoroughly washes out the uterus, and continues the injections until the fluid comes away perfectly clear. The firm contraction of the uterus eliminates the liability of absorption there, and the principal abrasions and absorbing surfaces are undoubtedly vaginal. The results at least have been satisfactory.

The pellets exhibited are quite soluble and are chemically pure; the biniodide has been tested for bichloride and none is present. The potassium iodide present merely aids in the solubility without affecting the chemical composition of the mercuric iodide.

TRANSACTIONS OF THE OBSTETRICAL AND GYNECOLOGICAL SOCIETY OF WASHINGTON.

Stated Meeting, December 18th, 1885.

DR. A. F. A. KING, *President, in the Chair.*

DR. J. R. BROMWELL presented a fetus discharged with the membranes entire. He said the fetus looked to be about $2\frac{1}{2}$ or 3 months, while the placenta represented the fourth month of pregnancy. He thought the placenta had undergone retrogressive change. A year ago, the patient had a molar pregnancy. She had a good history, and good health. She conceived last May, and when she was four months advanced, her first child fell upon her abdomen. From that time, all fetal movement was checked. Still she had no flow until one week ago, when labor pains set in,

followed by delivery of the specimen presented. There was excessive post-partum hemorrhage that was checked by the tampon.

DR. LACHLAN TYLER read a paper on a

CASE OF HODGKIN'S DISEASE IN A CHILD.¹

At the request of the President, the discussion was opened by

DR. W. W. JOHNSTON, who said he had not heard the paper read, but had seen the patient when she was presented. Her appearance at once brought up the question whether this was really a case of Hodgkin's disease. The history of all cases of this disease was that it progressed uninterruptedly and to a fatal issue. There were a few exceptional cases, but in these there might have been an error in diagnosis. Evidence showed that the disease was allied to the malignant forms. The enlargement of the glands began in some special region, say in the neck, the disease being dormant. We next had an explosion, a generalization to all the glands, lymphadenoid tumors making their appearance in the liver, spleen, kidneys, intestines, in the peripheral as well as in the visceral glands; next anemia, with cachexia, and, finally, death from exhaustion or some complication. He did not think the case presented was one of Hodgkin's disease, especially as the patient had improved under treatment. Moreover, the swelling in the neck showed spontaneous openings, filled with a caseous pus. Suppuration was rare in this disease. Dr. G. W. Johnston had, at his instance, looked up the statistics of the disease, and the first thing of interest was the difference in the nomenclature, as presenting the differences of opinion held by authors. It was also shown that while the disease occurred in all ages, it was more frequent in early and late adult life. According to Osler, the disease was more frequent in the male sex, three-fourths of the collected cases being males. Gowan's and Hutchinson's tables showed the same result. Heredity was held to be a predisposing cause, but statistics gave little support to this view; still Osler gave an instance where twins had the disease. The question of contagion, or whether the disease was allied to cancer, was supported by cases. There was an infective principle, no doubt, as the progress of the disease was too rapid for a purely inflammatory process. As to the pathological anatomy, when the tumors were soft, we had proliferation of the parenchyma cells, while, when hard, the connective-tissue stroma was increased. Bonfils had seen glands weighing three thousand grains. In some cases the spleen was small, in others large. The enlargement of organs was due to the presence of adenoid tumors within. Thus we find in the mucous lining of the intestines enlargement of the adenoid tissue, as well as of Peyer's patches. This also appeared in the medulla of bone, upon the dura mater, and in the hepatic duct. As in the liver adenoid tissue was but slightly developed, the growth of these tumors was brought about through the agency of embryonal tissue.

As to duration, the shortest was in a child, four and one-half months; the longest, three years; the average being from fourteen to fifteen months. The most interesting question was the cause. According to Trousseau, the disease was due to long-continued irritation of lymph-glands, and he had collected several cases in

¹ See original article in this number.

which chronic coryza or otorrhea had caused swelling of the glands in the neighborhood, the disease appearing to become general from this point. Dr. Johnston did not agree with Dr. Tyler as to the relationship between leukemia and Hodgkin's disease; it certainly was not fixed, and, perhaps, there was none. In the cases collected, there was increase of colorless blood-corpuscles in but one. It was curious that in Dr. Tyler's case there was an excess of the colorless corpuscles at first, which had now disappeared. This symptom was the great point in the differential diagnosis, and the fact that there was, at one time, an excess in Dr. Tyler's case went far to prove it was not the disease diagnosed.

DR. S. S. ADAMS was inclined to think, with Dr. Johnston, that the case reported was one of scrofulosis, and not Hodgkin's disease. Its history pointed to this. The girl's mother had died of tuberculosis; her father was a drunkard. Scrofula was due to either syphilis or tuberculosis. The picture presented by the girl was familiar to all that had dispensary experience, and if this was a case of Hodgkin's disease, he had seen many such during the last ten years. He would call it cervical *adenitis scrofulosa*. It began on one side, next invaded the other; the glands remained enlarged (without inflammation) for some time. There was anemia, though not extreme, and but little impairment of the general health. Many cases went on for a long time before seeking advice, and this they generally did because of the unsightly appearance produced by the swelling. The treatment was good food and hygienic conditions, iron, cod-liver oil, and a general building up by tonics. Other methods of reduction were pressure and the application of collodion. Of late, he had applied flexible collodion with iodoform, and at first thought the swelling improved, but had changed his opinion. The disease was more common in the colored than in the white race.

DR. HARRISON said that he could not agree with Drs. Johnston and Adams, for the argument advanced was not a fair one, viz.: that because the treatment had proven beneficial, it was denied that the case was one of Hodgkin's disease. Some cases had recovered, and Dr. Tyler's had a like chance. It was not scrofula, because there was, in this case, enlargement of the spleen and axillary glands. Dr. Hagner had accepted the diagnosis, and gave a bad prognosis and predicted death. The glands now were but half the size they were, and while one of them now suppurated, this was not unusual in the disease. He also held that the colorless corpuscles were increased in Hodgkin's disease.

DR. G. W. JOHNSTON said he had carefully gone over the statistics, and had collected thirteen cases of Hodgkin's disease in children; in but one was there an increase in the colorless corpuscles. There was, however, occasionally fever, and the temperature may rise very high. In one case, there was ulceration of a Peyer's gland, with death from peritonitis. The ovary was involved in one case. One case was curious. The child, about 10 years of age, felt badly, became inactive and lethargic; at the same time, there was great increase in adipose tissue. At the autopsy, fat in quantity was found in all the cellular tissues. Other statistical points noted had been referred to by Dr. W. W. Johnston.

DR. W. W. JOHNSTON, in reply to Dr. Harrison, said he had only meant to define the disease as being a lymphoid enlargement without increase of the colorless corpuscles.

DR. HARRISON.—There was increase in one case recorded, and it was, perhaps not looked for in the others.

DR. G. W. JOHNSTON thought it was mentioned in that case either to draw attention to its rarity or perhaps suggest an error in diagnosis.

DR. ACKER had seen a number of cases where the glands were enlarged as in Dr. Tyler's case, and had always considered them scrofulous.

DR. BUSEY said the question was whether an elevated temperature was always present; in other words, was this symptom pathognomonic of Hodgkin's disease?

DR. HARRISON said it was not pathognomonic, but characteristic.

DR. ACKER.—The fact that the child had had enlarged tonsils pointed to tuberculosis.

DR. G. W. JOHNSTON.—The temperature rose to 103° in some cases.

DR. BUSEY held that temperature was not a diagnostic point. In most cases of scrofula, he found the temperature above the normal. The presence of fever did not prove the presence of Hodgkin's disease, nor disprove the existence of scrofula.

DR. HARRISON asked whether gentlemen had ever met with a picture like that presented here—fever, glandular and splenic enlargement?

DR. BUSEY would not speak of the enlargement of the spleen, which seemed to be in doubt. But the present condition of the child, the reduction and suppuration of the glands, the anemia, all pointed to cervical adenitis. Much of the swelling was no doubt due to involvement of the periglandular structures, and not to the glands themselves, and was less now because it had receded. The glands would finally break down, and not until then would the swelling disappear.

DR. TYLER, in closing, said, regarding the supposed error in diagnosis, that most of the speakers had not held to the differences between the two diseases, speaking of both in the same breath. The predisposing causes of Hodgkin's disease as laid down in the books were those given to-night—drunkenness, scrofula, etc. In his case, the disease had not yet invaded all the glands, but as far as it had gone, showed itself as Hodgkin's disease. The one point he had tried to make was that we could not, except arbitrarily, separate leucocythemia and Hodgkin's disease. All efforts to do so had failed. If we look at a series of cases, we find all the symptoms mixed, and the lines between the two effaced. The colorless corpuscles might be increased absolutely or relatively. The patient improved on change of residence and hygiene, and he held that the early treatment of the case had produced the result seen.

TRANSACTIONS OF THE GYNECOLOGICAL AND OBSTETRICAL SOCIETY OF BALTIMORE.

Regular Meeting, April 13th, 1886.

The President, GEORGE W. MILTENBERGER, M.D., in the Chair.

WM. E. MOSELEY, M.D., Secretary.

Discussion on DR. W. P. CHUNN's paper (read at last meeting).

DR. P. F. MUNDÉ said he had operated twice for the removal of uterine fibro-myomas. In the first case he was able to find the second ovary only after complete removal of the tumor. The ovary was adherent deep in Douglas' pouch, and had to be ligated in situ. The stump was secured by long pins, and constricted by a wire *serre-nœud*, which came away on the sixteenth day. The second case was diagnosticated to be a semi-solid ovarian cyst, but proved to be a myoma, attached to the uterus by a slender pedicle. Palpation was obscured by edema of the fat abdominal walls. The growth was adherent to all surrounding tissues, and in its removal both the mesentery and intestines were unavoidably torn. All rents were immediately sutured. On the next day symptoms of collapse appeared, and a pint of a saline solution was transfused into the patient's blood. Several hours later, secondary hemorrhage ensued, when a second transfusion was resorted to, and the wound opened and bleeding points secured, but in spite of all death ensued after thirty-six hours.

In one case of double ovariectomy, with some adhesions, he had hesitated until the last moment about introducing a drainage-tube, because there seemed to be no oozing whatever, but finally did so, and the next morning he removed some ten ounces of bloody serum through it, which discharge continued several days. He thought edematous abdominal walls were more common with large fibroid growths than in ovarian cysts.

DR. W. P. CHUNN said he would like to state, in regard to his case, that he considered his patient as now fully recovered. The urinary fistula had entirely closed, the woman was up and about, and rapidly gaining strength and flesh. Since the last meeting, he had looked up the subject of the action of the adhesions attaching the pedicle to the abdominal walls, and found that his opinion, as expressed in his paper, that the adhesions would in time become stretched, so as to allow the remaining portion of the uterus to resume its normal position, was in accord with the views of Dr. T. A. Emmet; also, that the opinion advanced that, by the stretching of the adhesions, the fistula would become obliterated, had been verified.

DR. T. A. ASHBY remarked that there was one fact in connection with the case reported by Dr. Chunn which greatly interested him. He had reference to the occurrence of an ovarian tumor in a negro woman. He was convinced that ovarian tumors were of

the rarest occurrence in the negro race. He had investigated the literature of ovariectomy very fully, and was surprised to find so few references to this fact. Neither Wells, Keith, nor Tait have reported ovarian tumors among negro women, but this omission was satisfactorily accounted for on the ground that these operators seldom treated negro women. In the United States, and especially in the southern portion, where a large negro population resided, one would expect to find reports of ovariectomies among these women, unless they were exempted from such pathological conditions by race peculiarities. Dr. Ashby said the only cases he could find in his researches through various authorities were one case reported by Dr. W. L. Atlee and the case reported by Dr. Chunn. He had no doubt other cases had been observed by operators, but he had not been able to find records of them. His attention was first called to this subject several years ago by a case which came under his observation through the courtesy of Dr. J. M. Hundley, of this city. The patient was a negro woman, between 40 and 45 years of age, whose abdomen contained a large cystic tumor, which was undoubtedly ovarian in its nature. The physical signs, history, and condition of the patient were those of an ovarian cyst. The only facts which could render the diagnosis doubtful were the race peculiarity in respect to ovarian cysts and a failure to corroborate this opinion by an ovariectomy. An operation was urged, but declined by the patient. Subsequently the patient induced another physician to tap the cyst with a trocar, and she died very shortly thereafter. As the case passed from under Dr. Hundley's observation, the name of the physician who performed paracentesis and the complete history of the case were not obtained. Dr. Ashby was satisfied as to the correctness of his diagnosis, and the only doubt which arose in his mind was created by the very rare occurrence of ovarian cysts in the African race. The patient referred to had about one-quarter white blood in her system, which may have some connection with the history of ovarian cyst.

DR. P. C. WILLIAMS read the following paper:

AN UNUSUAL CASE OF POST-PARTUM HEMORRHAGE.

Strictly speaking, "post-partum hemorrhage" is limited to the puerperal process attending or immediately succeeding the third stage of labor. In that sense the case I am about briefly to report is incorrectly named, but it is difficult to designate it in other terms, and I have ventured to call it "an unusual case of post-partum hemorrhage." February 1st, 1886, Mrs. S., a strong, healthy, well-formed woman, was confined with her first child. The labor presented no complications, and was completed within a reasonable time, under the influence of a moderate quantity of chloroform. The placenta was examined, and was found to have come away entire with but very slight loss of blood. There was an abundant flow of milk on the third day. The convalescence progressed perfectly until the third day, when I was sent for with great urgency. I was soon at the house, and found the lady flooding violently, the bed filled with blood, and the woman pulseless and prostrated to an alarming degree. The nurse had already given two teaspoon-

ful doses of fluid extract of ergot, and had applied ice freely to the abdomen. Placing my hand on the abdomen, I found it filled with the womb, which was distended to the size of an eighth month pregnancy.

Recognizing the gravity of the position, I immediately administered hypodermically a drachm of fluid extract of ergot. I then inserted my hand and emptied the womb of the clots which had so largely distended it. As soon as it was emptied I made constant, strong pressure upon the abdomen, and soon found that the ergot began to act and produce decided contractions of the womb. I then gave another hypodermic dose of ergot, which, with the continued pressure upon the abdomen, *maintained* the uterine contraction, and the hemorrhage was checked and never returned. The woman was frightfully reduced by the great loss of blood which she had experienced, but she soon began to rally, and went on to a steady and complete restoration of health.

I was at great loss to explain the cause of this excessive and unexpected hemorrhage. I had seen my patient at 10 o'clock that morning, when she was apparently perfectly well. At 1 o'clock that night I was sent for, and found the condition just described. What could have produced the hemorrhage? The woman was about twenty years old, had always enjoyed uninterrupted health (I had known her since her birth), had had no trouble during her period of pregnancy; her confinement was a little tedious, but perfectly natural; there was very slight loss of blood during the labor; the placenta was expelled *entire*, and the progress of the case was unusually satisfactory until the eighth day, when the sudden change took place that produced the formidable hemorrhage above described. Upon careful inquiry, I finally ascertained through the lady's husband that she was in the habit of putting herself to sleep by the inhalation of *chloroform liniment*, with which she saturated a handkerchief and applied it over her nose and mouth. This liniment consisted of two parts tinct. camphor and one part each tinc. aconite and chloroform. She had inhaled this liniment night after night for several weeks before her confinement, and had gradually increased the quantity until she used *eight or ten ounces every night*. The night in question she had used it with unusual freedom, and at 1 o'clock it had affected her so profoundly as to produce this alarming hemorrhage. She was made to understand the great danger of continuing the inhalation of the liniment, and readily consented to abandon its use entirely. For a few nights I gave hypodermic doses of morphia to secure necessary sleep. The dose of morphia was gradually diminished, and after *ten days* was wholly discontinued. This case interested me greatly. I. It was the first of the sort that I had ever seen. II. It proved the great power of the hypodermic use of ergot in controlling uterine hemorrhage. In this case, as in others in which I have used it, its effect was almost instantaneous. III. It is won-

derful that any one could habitually inhale a mixture containing so much aconite, viz., two ounces to the half pint, and experience so little constitutional injury, as both before and after the hemorrhage referred to her health has been perfectly good, and has so continued until the present time.

DR. B. B. BROWNE asked Dr. W. if any remains of placenta or membranes were found in the clots passed by his patient, and cited a case reported by Dr. Coskery before the Clinical Society. In this case, examination of the placenta seemed to show that it had come away entire, but on the inner surface of the uterus, which was removed post-mortem, there was quite a mass of placental tissue. Dr. Browne referred to a case of post-partum hemorrhage which he had recently seen, in which the fl. ext. ergot injected hypodermically seemed to produce rapid contraction of the uterus, but as an intrauterine injection of equal parts of vinegar and very hot water was used at the same time, it was impossible to tell which was the most active in checking the hemorrhage.

DR. C. H. RILEY said he had seen one case somewhat similar to Dr. Williams'. The patient, a primipara, got along very well for about a week following labor. At this time, to determine the exact position of the uterus, he introduced a sound with great care, but the examination was followed by profuse flooding. He tamponed the vagina and left the tampon in for two days. There was no return of the hemorrhage.

DR. G. LANE TANEYHILL stated that he had used Bonjean's preparation of *ergotine* hypodermically with admirable results in cases of post-partum hemorrhage. Thirty grains of the ergotine were dissolved in four hundred and fifty drops of glycerin, and twenty drops of this solution were injected. It was not necessary to repeat the injection.

DR. ASHBY remarked that, whilst the treatment of post-partum hemorrhage was being considered, he would say that he had had an experience with vinegar as a hemostatic in post-partum hemorrhage which confirmed his opinion in regard to its great value in cases which could not be controlled with ergot and other agents. He then related a case of violent hemorrhage coming on at the time of delivery from an atonic and fagged-out uterus. He gave ergot hypodermically twice, injected hot water into the uterus, used pressure and taxis, still the uterine contraction was unsatisfactory and the loss of blood was kept up. He next called for vinegar. A half-gallon or more was emptied into a basin, and with a Davidson syringe a stream was quietly injected into the uterine cavity. Before the basin was emptied the uterus began to contract firmly. Hemorrhage ceased promptly and did not return. Dr. Ashby believes that vinegar acts both as a hemostatic and as an antiseptic. He favored the plan of using the syringe instead of a sponge as recommended by the late Dr. Penrose. The long tube of the syringe could be carried well into the uterine cavity. There was less danger in this than from the introduction of the hand.

DR. GEORGE W. MILTENBERGER said that Penrose and Wallace had stated that they considered vinegar applied to the inner surface of the uterus the most powerful hemostatic in use. They

had never known it to fail either in their own hands or in those of their students.

DR. L. E. NEALE related a case from his own practice (hospital), of secondary post-partum uterine hemorrhage, occurring on the *ninth* puerperal day, and resulting fatally. The patient, an Irish-woman, age 25 years, primipara, was delivered by low forceps operation, at the University Hospital, March, 1885. The cervix and perineum were uninjured, the placenta came away entire, the third stage being normal. A mild attack of puerperal fever readily yielded to appropriate treatment. She was considered out of all danger and in excellent condition, when on the *ninth* puerperal day, in the absence of all attendants, a violent uterine hemorrhage occurred and ceased spontaneously, leaving her moribund. She died on the following morning. Dr. N. considered the hemorrhage in this case too profuse and sudden to be explained otherwise than by some form of atony of the uterus. He had never attended a case of severe or dangerous post-partum hemorrhage, "*flooding*," in his own private practice, but, from what he had been taught and had clinically observed, he thought the immediate introduction of the hand in utero (the obstetrician's hand whilst attending a case of labor should always be aseptic), with or without ice, and squeezing the uterus between the hand without and the *fist* within, the quickest and surest means of relief. He would also use ergot hypodermically.

DR. WILLIAMS remarked that some years ago he reported before the "Medical and Chirurgical Faculty" some cases in which he had used ergot hypodermically in post-partum hemorrhage. In one case, he first passed ice within the uterine cavity, then his hand, and scratched the lining membrane, without producing any contractions. He then injected ergot into the thigh, and as soon as possible reintroduced his hand into the uterus, when, almost immediately, it contracted firmly. This was the case which suggested to him the hypodermic use of ergot. He considered the fluid extract of ergot a more reliable preparation than ergotine. He makes it a rule to instruct every woman whom he is engaged to attend in labor, to have on hand chloroform and fluid extract of ergot, and always gives ergot at the end of the labor.

DR. H. P. C. WILSON said he always followed the rule laid down by Dr. Williams in requesting his patients to have chloroform and fluid extract of ergot on hand before labor begins; but he never gives ergot before the expulsion of the child, and only then when there is any indication of absence of prompt and firm contraction of the uterus. We have, in the hand introduced into the uterus, the means of promptly arresting post-partum hemorrhage, while other agents, to be used if necessary, have time to secure permanent contraction of the organ. He had confidence in the *hand* as a *curette*, in hot water and in ergot, in the above cases, but he did not approve of giving ergot after every case of labor, as it insured to the large majority of women unnecessary suffering in excessive after-pains, and he only used it in cases where there were indications of the occurrence of excessive hemorrhage. He could recall one case where ergot by the mouth, rectum, and hypodermically failed to control the hemorrhage, and where manipulation of the uterine cavity with the fingers was equally inefficient. The uterus would contract and expand again and again under these remedies, and the hemorrhage, with each expansion, was frightful. This woman was saved, when almost moribund, by passing

the hand into the uterus and with long finger nails raking the whole mucous surface *thoroughly* for several minutes. She lost no more blood after this manipulation.

In another case of post-partum hemorrhage, where ergot, and the hand and ice in the uterine cavity failed, he had saved the woman, when cold and pulseless, by throwing very hot water into the uterus. In this case a pint or two of hot water would cause the uterus to contract and check the bleeding, but so soon as the irrigation was stopped, the uterus would expand, and it was only after pulling the woman's hips over the edge of the bed, with a tub under her, and pumping in gallons of hot water, that he succeeded in producing permanent uterine contraction and arresting the hemorrhage. With the means now at our command, the doctor had come to the conclusion that very few, if any, women should die of post-partum hemorrhage.

DR. W. E. MOSELEY had found intrauterine injections of hot water a very safe and certain method of checking hemorrhage from the endometrium. So far it had never failed him. It must be used in large quantities and hot, not less than 115° or 120° F.

DR. TANEYHILL exhibited a

FIVE MONTHS' FETUS ENVELOPED IN ITS AMNIOTIC SAC,

with the placenta completely (in all its surface) attached to the sac, which was voided by Mrs. H. H. at 2 A.M., April 12th, in consequence of having taken a long walk and, on returning, slipping on an orange rind. She has bilateral laceration of the cervix, has had three children, one miscarriage, and three premature births. No unusual symptoms supervened, except profuse hemorrhage, which was checked by ice externally applied.

DR. NEALE said that Prof. J. E. Atkinson had recently presented him with a specimen, now in the University of Maryland, identical with the one exhibited, save that it was the result of a pregnancy probably a little further advanced. This was from a case of induced labor on account of advanced renal disease, and the method used by Dr. A. was Krause's, or the introduction of a bougie between the membranes and the uterine wall.

DR. ASHBY said the specimen presented by Dr. Taneyhill was an interesting one to him, from the fact that he had never seen a fetus completely inclosed in the amnion and expelled at so far advanced a period of pregnancy. He had often thought that this was the physiological method of delivery. He was led to this conclusion from an observation of parturition in the lower animals. He had frequently observed the act of parturition in the mare, in the cow, in the sow, and in the ewe, and he was struck with the fact that the young of these animals are delivered into the external world, in the vast majority of cases, completely invested with the amnion. He witnessed some three or four years ago the parturition of some thirty or forty ewes, and in very nearly every instance the young lamb was dropped with the amnion intact, and he also observed that, where the amnion had been ruptured prior to delivery, the act of parturition was more tedious. He did not know whether his observation was the correct one, but if such be the fact, and if this be the design of nature in the lower animals, is not the modern obstetrician at fault in rupturing the amnion?

Should not nature be left undisturbed in all cases of parturition unless there was some manifest purpose in an interference?

DR. MILTENBERGER had had one case in which the fetus, at full term, was born with the membranes entire. The child was born just before he entered the lying-in room, and on turning the bed-clothes aside it was seen actively moving inside the unruptured membranes. The child did perfectly well.

DR. NEALE thought the practical gist of Dr. Ashby's and similar remarks was the question, Is the practice, recently advocated by Dr. Byford, of maintaining the membranes intact after complete dilation of the os uteri, correct or not? Dr. N. had brought this question before the Society at the last meeting, and all present who spoke upon the matter, including Dr. Mundé, had expressed opinions opposed to Dr. Byford's plan.

DR. MILTENBERGER said that, after reading Dr. Byford's paper, he had carried out his theories thoroughly for two months, and was convinced that the membranes when left intact after full dilatation of the os did no good, delayed the labor, and did not effect any dilatation of the perineum, that part refusing to relax until after the head came down against it. The head, when well down in the pelvic canal, would fill it up so fully as to prevent any of the amniotic fluid from being forced down below it during the uterine contractions.

DR. WILLIAMS thought leaving the membranes unruptured would only delay the labor, and that those cases in which the fetus came away with the membranes entire were cases of unusually tough membranes. As an example of tough membranes, he stated that, in a case of shoulder presentation, in turning he was able to pass his hand up between the membranes and the uterine wall, and the membranes ruptured only when he grasped the foot.

HEMOSTATIC FORCEPS FOR REMOVAL OF URETHRAL CARUNCLES.

DR. ROBT. T. WILSON exhibited forceps for the complete compression of the pedicle during removal of growths within the female urethra. The doctor said that the forceps were firm and secure in their grasp; and their weight so very slight, that, where hemorrhage was feared, they could be left attached in the canal, and the patient be not at all troubled by their presence. The patient could urinate and move about without difficulty. Where they were used it was not necessary to apply a hemostatic. The forceps could be taken apart and thoroughly cleansed. They had been tested in several cases, and had given every satisfaction. They had been left attached twenty-four hours, and the patient did not object at all to their presence. They could also be used for the compression of the pedicle of growths about the vulva, vagina, and cervix.

DR. ASHBY remarked that Dr. Wilson's forceps were quite ingenious and could, no doubt, be used to good purpose. He had once had an experience with a caruncular growth in the urethra which proved to him that the hemorrhage following the removal of these small growths could be very troublesome and alarming. The removal of a small growth, scarcely larger than a grain of

wheat, located about five-eighths of an inch within the female urethra, was followed by the most annoying flow of blood he had ever experienced. Almost every effort to control it was successful for only a few hours, after which time the flow would return. Finally, pressure with a large catheter accomplished the object desired, though this pressure had failed in the early treatment of the case. Dr. Ashby said he had recently removed three small polypi from the cervix uteri of three patients. In these cases hemorrhage was very profuse, but he had stopped it with Monsel's solution. In each of these cases the polypi were not larger than small filberts, yet they had occasioned profuse menorrhagia in each patient.

DR. H. P. C. WILSON thought that the forceps of Dr. R. T. Wilson, for arresting hemorrhage in the urethra after the removal of polypi or caruncles, would prove to be a very useful instrument. The bleeding, after the removal of these little growths, is sometimes very great and hard to arrest. With this instrument the hemorrhage is promptly and securely controlled, and without much inconvenience to the patient. The use of Monsel's solution, for arrest of hemorrhage in the urethra, is to be avoided, because it frequently fails in its object, and then the canal is so contracted and blocked with clots of iron and blood that we are cut off from the use of other styptics.

TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF CINCINNATI.

Meetings of March 11th and April 18th, 1885.

The President, DR. J. L. CLEVELAND, in the Chair.

NEW UTERINE DILATOR.

DR. PALMER showed the latest improvement of his uterine dilator.

The first one he introduced to the profession in 1873, an account of which, with an accompanying woodcut, appeared in the *AMERICAN JOURNAL OF OBSTETRICS* for that year. This instrument had been used by him and many others since then with satisfactory results. Recently, however, he had modified it, and he thought considerably improved it.

The improvements were: (a) increased curve to the dilator proper; (b) placing the protecting shoulder of the blades at two and a quarter inches from the uterine extremity; (c) removing the scissor-like rings from the handles; and (d) changing the screw arrangement.

The increased curve in the blades facilitates introduction within a flexed, especially an anteфлекed uterus, while it is no impediment when the uterine axis is normal. The placing of the shoul-

der at two and a quarter inches from the tip (instead of $1\frac{3}{4}$ in.), adapts the blades to cervices of increased lengths, as when artificially, or especially congenitally, elongated. The shoulder is a very important protection to the uterus, in preventing injury of the fundus by undue insertion of the blades.

The rings of the handles have been removed as unnecessary appendages, thus decreasing the weight and cost of the instrument. The shanks are separated at the manual extremity to permit of dilatation to any amount up to one inch. The shanks are made strong, so that there is but little springing in the blades when great resistance in the cervix is encountered.

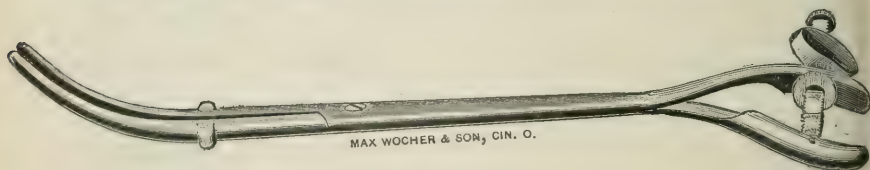
When the blades of the dilator are thoroughly separated, there may be an appearance of divergence of them, but this is an appearance more than a reality. An actual measurement of the blades, from out to out, will show but little divergence, and this little, in the lateral measurement, is compensated for in actual dilatation by the increasing thickness of the blades from tip to shoulder, in an antero-posterior direction.

The slight lateral divergence after full expansion, removes the tendency of the instrument to slip out. The large instrument is slightly corrugated on its blades, with the same object in view, but these corrugations are not sharp as in some dilators, for such are liable to tear the cervical canal.

The dilator is made in two sizes: the smaller answers for the great majority of cases; the larger can be used, after full expansion, with the smaller, or at once when the cervix is partially dilated by disease, and when it becomes necessary to open up the canal for an exploration with the finger, or for some operative procedure.

This dilator was one of the first, if not the first, which had the screw attachment. This is placed on the right (not the left as in some instruments). The screw is strong, works smoothly, and is absolutely necessary to secure slow, regular, and even dilatation, the exact amount of which can be accurately measured by the graduated arc, the idea of which was taken from Goodell's instrument.

The following woodcut illustrates the smaller instrument.



Palmer's Uterine Dilator.

Dr. Palmer made some further remarks as to the method of using and uses of the dilator.

DR. W. H. WENNING remarked that the instrument devised by Dr. Palmer certainly possessed the advantages claimed by him.

First of all, most of the dilators in use are too nearly straight at their uterine extremity for easy introduction into any uterus. The researches of Schultze have shown that even in the normal condition this organ has a slight, forward curvature, and it is but natural that a dilator, as well as a sound, should have the proper curve belonging to a normal uterus. The smaller instrument, which the speaker had used in several instances, was easily introduced without necessitating jarring or pulling down the uterus with any force. Although a small instrument, it is sufficiently powerful in cases where extreme dilatation is not required. The speaker had heretofore mostly used Sims' dilator, but he found it too formidable an instrument for ordinary cases. It is also not very easily introduced, first, on account of the thickness of the uterine end, and, secondly, on account of the straightness of this extremity. Wherever, however, a rapid powerful dilatation is required, he would prefer it to any other; if need be, the cervix could first be dilated by means of a smaller dilator, as, for instance, the one presented by the essayist, in order to prepare the way for a Sims instrument. For anteflexion, the speaker regarded antero-posterior dilatation, as, for instance, by Schultze's dilator, as more rational, since it overcomes the constriction in the exact direction in which dilatation is needed.

Another advantage possessed by Palmer's dilator is in not being too bulky at the manual extremity. It can, therefore, be used in any speculum, as the handles are not in the way, or it may be used with perfect comfort to the patient without the speculum at all.

DR. C. D. PALMER read a paper entitled:

THE PERINEUM AS A SUPPORTING STRUCTURE—SOME OF THE METHODS OF PERINEORRHAPHY AND COLPORRHAPHY.¹

DR. GUSTAV ZINKE said: Although the subject of "perineorrhaphy and the perineum as a supporting structure" had and still received a good deal of attention, the function of the perineum, and the best mode of restoring it when lacerated, was not yet determined beyond controversy. The article presented to-night was a valuable contribution, inasmuch as the method described possessed original features. It is an advance that will speak for itself and find its place. The reason why perineorrhaphy, although often performed, is not always followed by the results anticipated is, because it is frequently performed by men wanting in experience and the necessary skill; and, he would add, perhaps, a want of thorough appreciation of the structure, form, and utility of that body. To him it would seem imposing upon the Society should he attempt to waste words in defence of the perineal body as a supporting structure. Notwithstanding that men of eminence are found in opposition to this view, he himself fails to see how it could be otherwise looked upon. It is not placed there for nothing; its structure, as well as position, will indicate its function; and, above all, the change from the normal that occurs in, around, and above it when destroyed, ought to be sufficient proof that it serves to keep the contents of the pelvis and the parts of the pelvic floor in the proper relation to each other.

For his part, he had always congratulated Prof. Palmer for using the vaginal sutures. Thinks that he assisted in the opera-

¹ See page 710.

tion when vaginal sutures were first employed by Dr. Palmer to the extent described, and that the result in that case, as well as in all subsequent ones, was all that could be desired. He, too, had adopted this method of late, with gratifying consequences, after trying, with less success, the methods of Emmet, Thomas, Simon, and others, and experimenting in his own fashion to bring the parts in perfect coaptation, and to create an organ as good in shape and usefulness as before. The attainment of this object is not always an easy matter, especially when the tear is large, and the cicatricial tissue abundant.

The question is frequently asked: "When must we operate?" His answer would be: In all cases where the vaginal walls tend to prolapse. From that time on perineorrhaphy is justified. It is bad practice to wait till either or all the usual consequences depending upon this accident have happened.

In this operation, as well as in all others, no definite plan for denuding the parts, introducing, fixing, or the kind of suture to be used, can be laid down. Familiarity with the anatomy and physiology of the organ, a clear idea of what is to be done, and a reasonable amount of dexterity and experience were certainly to be required before good results could be obtained.

DR. GEO. E. JONES said that, before discussing the operation of perineorrhaphy, he would say but one word about the anatomy of the perineum. An eminent gynecologist states emphatically that "the perineal body gives no support to the uterus, directly or indirectly." An equally eminent anatomist states that "the entire displaceable portion of the pelvic floor rests on the entire fixed portion," of which the perineal body is a factor; if this be so, it is certainly indirectly a support.

Building up or restoring the septum as nearly as possible to its natural conformation is the object of every surgeon. Many methods have been devised, yet no one method can be adopted as a rule for all cases, for each case has its own peculiar features which sometimes tax all the ingenuity of the surgeon to produce a happy result. But when we examine some of the methods—although not the intention of the authors—there is the appearance of hanging, as it were, the perineum up on the crest; this is not building up the part, but merely producing a puckered-up or knotted condition of the tissues. The speaker added that, when he was in New York a few months ago, he witnessed one of the most eminent gynecologists in the country perform a very difficult operation, and, in the enthusiasm of the moment in endeavoring to explain his method of operating, he placed both hands on the buttocks and pushed them forwards, saying: "This is what I want," thereby perhaps unintentionally conveying the idea of hanging up the perineum on the crest. This is indeed not building up the perineum by restoring it to its original form. In many of the operations, the sutures are passed in curved parallel lines from the perineum to the crest, possibly one or two overlapping, thereby dragging down the crest, and pulling up the perineum. This procedure must produce the result mentioned a moment ago.

The speaker regarded the method adopted by the essayist, of denuding the parts high up, and passing the sutures in straight, transverse, parallel lines—an idea which, however, had been advanced before—as more feasible, and adapted to give more strength to the septum.

DR. W. H. WENNING remarked that so much had been said and

written about the perineum—its anatomy, physiology, and pathology—that a beginner would be sorely perplexed should he endeavor to obtain solid information from the teachings of different, equally eminent, authorities. Some authorities say the perineum is the great supporting structure for the uterus, vagina, and rectum—others maintain that it has no supporting function whatever; some claim that the fewer stitches are used in repairing this structure, when once lacerated, the better—others, that not too many sutures could be inserted for a close coaptation of the parts; some gynecologists in the operation of perineorrhaphy direct all the stitches to be external, that is, carried from without inwards, and then outwards again, the sutures being wholly buried in the tissues—whilst others say that the operation should be, as much as possible, intravaginal. All these different views tend to arouse a confusion of ideas in the mind of the student, until, when called upon to put his knowledge to a practical test, he is totally at sea in deciding what course to follow. The speaker would not argue the question of perineal support beyond stating that he believed that it was an important auxiliary to the other supporting structures, although this importance was not such as is attributed to it by the older authorities, namely, that it was the main or even sole supporting structure to the other pelvic organs.

A ruptured perineum may be likened to an open book, when the laceration is recent and the wound fresh; the most natural thing, to do is to close that book by bringing the sides together, and keeping them in apposition. This indication is simple enough in the primary laceration, and the method of Baker Brown was a most natural, self-suggesting expedient for that purpose. Our endeavor should be to bring the two sides of the laceration—page to page, to continue the above simile—along their whole surface antero-posteriorly; and this certainly can best be done by reinforcing the external perineal parts by the interposition of the quilled suture, by which pressure is brought to bear along the middle portion of the lacerated surfaces, as well as their anterior (external) and posterior (internal) edges. The speaker thought, therefore, that the method of Baker Brown ought not to be rejected simply because it failed to accomplish its purpose. The fault lay not so much in the principle as in the method of carrying out this principle. The trouble was that the sutures were too superficial, and union did not extend through to the entire depth of the laceration. The posterior or vaginal edges, not having the same close approximation as the anterior ones, would gape, the union being simply external, perhaps to but half the depth of the rent. This defect was recognized soon after Baker Brown's method came into vogue, and its remedy was attempted by at least one surgeon. Küchler, of Darmstadt, proposed the so-called double suture (*Die Doppelnaht zur Damm-Scham-Scheidennath*, Erlangen, 1863), by means of which he first united the vaginal edge of the laceration with small, interrupted sutures, knotted on its vaginal surface, and then introduced the large main sutures from within the united interior vaginal edge outward into the external perineum emerging on each side. When these outer threads were tied in the ordinary manner over the external surface, the interior sutures were entirely hidden from view. This author claimed to have thus attained excellent results, because he had united not alone the external and middle, but also the internal surfaces of the lacerated sides. The speaker referred to this, perhaps little known, histori-

cal fact, because the idea of sunken sutures had again been revived some time ago. Now, if in the operation of Baker Brown an internal suture had been placed along the internal edges, where union was most apt to fail, besides having brought the middle and external parts together by means of the quilled suture, the operation would perhaps have been followed by better results. This failure led to the next step in the operation of perineorrhaphy, the burying of the sutures entirely within the wounded surfaces. The idea, here again, is by drawing upon the ends of these sutures to force the denuded surfaces against each other throughout their whole depth. The liability to failure in this operation lies in the fact that the surfaces are not placed *flatly* against each other, as was the object of the quilled sutures, but they are apt to become puckered up, just as drawing on the string of a tobacco pouch closes the opening only by throwing the edges in folds. Skene has alluded to this puckering of the sides, and proposes to remedy it by introducing the suture just at the edge of the wound (instead of at a distance from it), and then inserting it in a circular manner around the lacerated surface, burying it in the tissues underneath. Therefore, in the speaker's mind, a method which would bring the torn surfaces together *flatly* upon each other like the pages of a book, would, after all, be the ideal operation for restoring the parts to their original position.

When a lacerated perineum is of old standing, however, the hypertrophied and diseased tissues in the vagina must be removed often to a considerable depth, and it is just this amount of denudation or removal of tissue which determines the good or bad result. The speaker believed it impossible to prescribe one form or method of perineorrhaphy for all secondary operations, even if the extent of the laceration in different instances was originally the same. Sometimes the tissues must be removed higher up in the vagina; at other times, lower down or more to the sides. Sometimes the denudation of the mucous membrane ought to be very superficial; at others a large portion of cicatrized tissue must be removed to a considerable depth. This is the reason why the various methods have been followed by good results if they were resorted to in the proper cases, and, conversely, why they have proved unsuccessful if employed in the wrong place. The speaker, for this reason, had no criticism to offer against the essayist's method, which was essentially that of Hegar's triangular denudation, differing only in the manner of introducing one suture (No. 9 in the first diagram). As the only proof of the correctness of this suggestion is an actual test, the speaker would refrain from making any comments upon it.

DR. PALMER, in conclusion, said that the views expressed by Thomas and Emmet as to the function of the perineal body were diametrically opposed, and represented either extreme. It seemed to him that a middle-ground was the most correct one. As Hart has said, the perineal function has been overrated and underrated. The paper had called attention to the injuries of the pelvic floor as distinct from those involving the perineal base. These were doubtless quite frequent, generally overlooked, but of a nature of the greatest importance.

He first obtained the idea of using transverse vaginal sutures from a diagram represented by the late Sir James Y. Simpson. This was before he had had an opportunity of seeing Hegar's and Simon's works. The operation which he was now performing differed

from Hegar's in that the denudation was probably deeper, and the transverse sutures altogether imbedded (if possible), these sutures being always used whether the operation was a pure perineorrhaphy or a colpo-perineorrhaphy. In the other or ordinary methods of suture adjustment, the internal or vaginal edges are often imperfectly coaptated, the posterior wall commences to sag, and the upper perineum is not perfectly restored.

The sutures are placed deep, so that they will not cut through, will not be put on a strain, and so that the muscular structures stretched and separated by injury and its results, may be better gathered together along their central attachments.

TRANSACTIONS OF THE GYNECOLOGICAL SOCIETY OF CHICAGO.

Meeting, Friday, March 19th, 1886.

The President, DANIEL T. NELSON, M.D., in the Chair.

DR. W. W. JAGGARD wished to call attention to a new instrument and a pathological specimen, in order to remind the Fellows of the Society of the first regular order of business, and on account of the intrinsic interest the instrument and the specimen possessed.

DR. ALEX. J. STONE'S PELVIC-OUTLET FORCEPS.

Dr. Alex. J. Stone, of St. Paul, has designed a very valuable pelvic-outlet forceps.

The characters of the instrument are:

Length, 24 cm. (spoons, 14 cm., handles, 10 cm.).

Fenestra, length, 12 cm., width, 3.5 cm.

Cephalic curve, 8 cm.

Weight, 210 grams.

English lock.

The instrument is bent backwards on its long axis, so that the angle, at the junction of the spoons and handles, is about 160°. The object of the perineal bend is to maintain flexion of the head during its passage through the vulvar orifice.

Dr. Jaggard had recently employed Dr. Stone's forceps in a case in which the head was arrested at the vulvar orifice, the result of uterine inertia, caused by a large intramural fibroid. It was possible to apply the forceps in the left lateral position without the patient's knowledge. He thought the instrument possessed obvious advantages over Dr. Sawyer's excellent pelvic-outlet forceps.

PUERPERAL UTERUS AND ADNEXA.

The pathological specimen was the uterus and adnexa removed

from the body of a patient who died at the Cook County Hospital, on the third day of the *puerperium*. Dr. H. H. Frothingham, one of the resident obstetricians, had kindly placed the material at the speaker's disposal. The patient, 30 years old, multipara, was admitted to the Hospital on the 13th of November, 1885, and gave a history of forceps delivery of a dead child, with perineal laceration, on the 11th of November. Temperature 103.4° F.; pulse, weak and rapid; respiration, shallow and frequent; tongue, dry and brown; pulmonary edema; rigors; profound prostration.

Abdominal tenderness, tympanites, dulness in both flanks; two tumors the size of a hen's egg on either side of the vulvar orifice; *labia majora* apparently gangrenous; recent perineal laceration; foul odor from vagina; complete cessation of lochial secretions.

The patient died soon after admission to the hospital.

Autopsy.—Both pleural cavities about half filled with sero-purulent fluid and flakes of lymph; lungs edematous; pericardium contained three ounces of fluid similar to that within the pleuræ; *endocardium apparently normal*; myocardium soft and friable; no metastatic abscesses could be found. Peritoneal cavity contained about one gallon of sero-purulent fluid, with flakes of lymph; intestines contracted, but no adhesions; liver enlarged, congested, giving evidence of extensive fatty degeneration; *spleen of normal size*; kidneys, cortex giving evidence of fatty degeneration, pelvis injected and intensely hyperemic; peritoneum injected.

The uterus was of a size corresponding to the third day of the *puerperium*. The ring of Bandl was plainly demonstrable. The endometrium exhibited the pseudo-membranous necrosis clearly described by Birch-Hirschfeld and other pathologists by the term *endometritis diphtheritica*.

The mucous membrane of the vagina showed similar diphtheritic changes. Pus oozed through both Fallopian tubes. The left ovary and tube were intensely injected. Puerperal ulcers were visible on either side of the vulvar orifice. The tumors on either side of the vulvar orifice proved to be caused by hemorrhage into the perivaginal connective tissue—pudendal hematomata. No examination for micro-organisms was made.

Dr. Jaggard thought the case was a typical example, both as regards the clinical course and anatomical findings, of that form of puerperal fever described by Buhl, in 1861, as *Puerperal Fever without Pyæmia* (endocolpitis, endometritis, salpingitis, peritonitis—subsequently pleuritis and pericarditis). The entire absence of splenic tumor was worthy of particular notice. Carl Braun has justly attached great significance to this sign—even going so far as to call it pathognomonic. The apparently normal state of the endocardium was remarkable.

ADJOURNED DISCUSSION OF PELVIC CELLULITIS.

DR. A. REEVES JACKSON stated that he understood from the notice received that he was expected to introduce the general subject

of pelvic cellulitis. If anything should cause a sense of humiliation to come to us as medical men, it was the impression which was forced upon us of how little accurate knowledge we had upon even the most ordinary topics when we attempted to study any medical subject in detail. In order to introduce the subject of pelvic cellulitis, he should say at least something about its pathology, diagnosis, and treatment. In regard to the first of these subjects, Dr. Thorburn says that he inquired of several experienced anatomists whether they knew of the existence of cellular tissue in the broad ligaments, and they replied that they did not know of it except from current gynecological literature; of course, that was because they had not investigated the subject practically; we do know there is a substance called cellular tissue in the pelvis, that it exists in and between folds of the peritoneum forming the broad ligaments between the uterus and the bladder, and also posteriorly to the uterus. When we speak of cellulitis, we mean an inflammation affecting this tissue and all that is connected with it; that is, its lymphatics, glands, blood-vessels, and nerves. Some think the starting-point is nearly, if not always, in the lymphatic glands, so that here in the outset we are met with this evidence of lack of certain knowledge. He thought it did not matter much to us as practitioners whether that layer called cellular tissue is affected in one portion only, or whether other structures are also involved. The diagnosis presents difficulties, as we all know. In the first place, we do not always know when the disease is present, and in every stage we feel doubt as to whether this disease or some other is present; sometimes even when it goes on to its later stages we have doubt. The first evidence of this disease consists in an effusion of serum which produces a hardness in the part, and which becomes more and more marked as the disease progresses; this may be of longer or shorter duration; it may disappear by absorption, or it may not disappear at all, but go on until the effusion becomes pus, forming pelvic abscess. Pelvic cellulitis and pelvic peritonitis frequently exist together, and as it does not affect our treatment of the case in the early stages, this fact does not make much difference to us as practitioners. Coming to the question of treatment, he had always felt a great deal of doubt as to the efficacy of the usual means employed—opium, digitalis, quinine, etc.; that is, as to whether they have any controlling influence upon the progress of the disease. From the very nature of the inflammatory process, he scarcely thought that these things could do more than simply palliate the symptoms. Prolonged hot-water douches are doubtless remedial, and may abort the disease. Latterly, interest has been more centred in the treatment of the condition when it has advanced to the stage of abscess. Heretofore, the treatment has been notoriously unsatisfactory, so that cases have gone on for weeks, months, and years, the woman being constantly subject to discharges of pus, and the remedial means have done little more than assist nature in the escape of the fluid. But during the last few years, since attempts have been made to treat the disease radically by surgical means, there has been offered an additional and efficacious method of dealing at least with some of these cases. He alluded to laparotomy. The success that has been attained in this way should lead us to look upon it with favor. He thought, however, that where radical surgical means are resorted to, there is danger of

too frequently performing operations dangerous in themselves, to relieve a disease which perhaps would not end life, although rendering the patient an invalid during her lifetime. He believed the discussion would be profitable if it should largely take the course of considering this latest and most formidable measure of treatment. He had read the account of Dr. Fenger, giving an account in detail of three operations made by himself; two of the operations were followed by death, which was attributed to some other disease, co-existing perhaps with the abscess itself; the other was successful. You are familiar with Lawson Tait's treatment for these encysted collections of pus. His success is simply marvellous: In 1883, the *British Medical Journal* published an account of twenty-four cases in which he had been successful, and in a letter which Dr. Jackson had received from him recently he said that up to that time he had operated successfully on thirty-two cases.

This was all the introduction Dr. Jackson had to offer, and it opened the whole subject. He was reminded that he had not stated whether he approved of abdominal section for this cause. He said he did, unhesitatingly, and thought there was as good reason for operating in inflammation of the pelvis as in any other disease which produces lifelong invalidism, provided it were not curable by other means. Laparotomy offers a method which is perhaps applicable to a comparatively small number of cases, and yet here it is the only remedy, that is, in cases of long standing in which the abscess cavity cannot be otherwise reached for the purpose of drainage, and where the woman is of such an age that makes it reasonable to suppose she will suffer for many years. He considered it a dangerous operation, and there had been errors in diagnosis. Mr. Tait is justified in his bold method of diagnosing abdominal disease by laparotomy. He follows it up with removal of the disease. Where the diagnosis is fairly established, he believed that laparotomy is a proper procedure as a last resort.

DR. W. H. BYFORD thought there was not much more to be said than had been said by Dr. Jackson, who had given an admirable *résumé* of the subject in all its bearings in such a way as to set it before the Society with clearness, and he approved of all Dr. Jackson had said, without exception. Dr. Byford had already said to the Society what he had to say upon the subject of pelvic abscess, and what he thought of the conditions of the operation of laparotomy for the abscess. He could not get rid of the idea that the operations performed by Lawson Tait were cases in which the abscesses were largely in the abdominal cavity, and were not pelvic abscesses, properly speaking—certainly were not confined to the pelvis; and he believed from what he had seen in regard to his cases that almost all were encysted peritoneal, instead of encysted pelvic abscesses. In speaking upon the subject before, he had taken the stand that the operation of cutting into the peritoneal cavity for the purpose of going down into the pelvis when the abscess did not reach above the pelvic rim was not justifiable in many instances, if at all. Where there has been a bar thrown out by the effusion of lymph in the peritoneal cavity so as to isolate the purulent collection and it extends up into the abdominal cavity, then he had no doubt of the propriety of the supra-pubic operation. He had recently seen an abscess, which formed mainly above the pelvic brim, open into the rectum at the top of

the pelvis, taking its course above and across the *fundus uteri* and opening in the side of the rectum. The collection of pus was entirely above the pelvis, and it was necessary to cut through the muscles and fascia to get into the pus cavity and then establish a process of drainage through the rectum. It would have been impossible in that case to have effected the opening through the vagina.

DR. J. H. ETHERIDGE said he had had no experience in opening the abdomen for treatment of abscess in the pelvis. He had seen one abscess opened through the abdominal wall, which had a spontaneous opening into the rectum. It was done at the Presbyterian Hospital about a year ago. The top of the abscess could be felt through the wall, and an attempt was made to find the opening, wash it out and inject it; but this being regarded as impracticable, abdominal section was decided upon, and a very curious combination of pathological conditions was discovered. The abdomen was opened, and a protruding something was discoverable; there was a discharge of perhaps an ounce and a half of serum, then it was cleaned. It was really a cystic growth, and upon introducing the finger another cyst, apparently, was discovered, that was opened and thoroughly evacuated, then another protruding by it was discovered, which was found to be the abscess cavity itself. That was opened and cleaned out and a drainage tube introduced and fastened to the wound, and the patient dressed, but she died within twenty-four hours. Post-mortem examination was made, and the track of the opening readily marked out. He had seen pelvic abscesses that opened in all directions through the abdominal cavity, into the bladder, vagina, and rectum, but never saw one that opened into the uterus. He saw at the Woman's Hospital an abscess that opened through the vagina and abdominal wall. The patient died. Dr. Etheridge said he had under treatment a pelvic abscess that opens into the rectum, in which general cellulitis is present. About once in six weeks the woman would have a fever, and after undergoing a great deal of suffering, nights of pain in which she would have to take large quantities of opium, there would be a discharge of pus into the rectum. She was put on tonics, and her general health improved greatly. Now she goes a great many weeks at a time without any return of the symptoms. A slight amount of pus is present with every passage from the bowels. It seemed to him as if the true estimate to make of the justifiability of laparotomy for abscesses is the ability to reach the top of the abscess through the abdominal wall, and where it cannot be reached it seemed to him that purulent discharge of the abscess into the abdominal cavity would surely take place.

DR. EDWARD WARREN SAWYER thought it a matter of regret if the discussion were to conclude without the special indications being given for a line of treatment in given cases. For his own satisfaction, he would like to have an answer to the following questions: First, in case of pelvic abscess, in which there is already an opening established, either by the bowel or by the bladder, is laparotomy ever justifiable? Second, in a case of supposed pelvic suppuration, without any external manifestation, as an opening through the bowels or bladder, is laparotomy ever justifiable?

DR. A. H. FOSTER said he had not been present long enough to learn the scope of the discussion, and had but little to add. He

did not recollect any case of pelvic abscess in his experience, although it was that of constant care of cases of pelvic cellulitis, more or less extensive. He always expected to have a larger crop of such cases, of more or less gravity, at this time of the year than at any other, especially those cases that are non-puerperal, but are menstrual. The cause seemed to be carelessness in regard to clothing, especially of the feet, and the exposure which comes from the varying weather in this climate, hot and cold, wet and dry. In regard to treatment of these cases, his did not differ from others. He always relied on prompt doses of mercury and opium until the acute symptoms subsided; fomentations externally and hot douches internally, and then followed either with the muriate of ammonium or the iodide of potassium, reducing the opiate as fast as possible and continuing quinine, its substitute.

DR. PHILIP ADOLPHUS said that in the absorption of recent inflammatory deposits in the pelvis, he depended on the action of the skin, kidneys, and bowels, stimulated by proper medication. In regard to hot douches, it depended whether the surroundings of the patient were such that they could be given properly; if otherwise, to attempt it would result injuriously. If symptoms point to suppuration, and fluctuation can be felt *per vaginam*, the use of the hypodermic syringe will disclose serum or pus. If serum, he trusted to absorption; pus, however, necessitated a speedy incision, with subsequent drainage, etc. If formation of pus is suspected at any time, it is best to look for it, and if it cannot be found, it is best to wait for its pointing. However, if the patient is in great danger, laparotomy is indicated.

DR. F. E. WAXHAM was sorry that he had not been able to hear the whole discussion. He was reminded, quite forcibly, of a laparotomy upon one of his own patients; however, it was not a case of pelvic cellulitis—it was acute peritonitis, with effusion within the abdominal cavity. This patient presented all the characteristic symptoms of peritonitis, intense abdominal pain, exceeding tenderness and great abdominal distention; the patient passed from bad to worse, and finally fluctuation was detected in the lower portion of the abdominal cavity. An eminent surgeon was called in consultation, who recommended laparotomy as the only hope of saving the patient's life. It was supposed there was pus within the abdomen, and, although very feeble and greatly exhausted, it was considered proper to give the patient the benefit of the operation. Frequent hypodermic injections of brandy were given, in order to support the flagging pulse during the operation. The abdomen was opened, but no pus was discovered in the abdominal cavity: a thin, serous fluid was discovered. The patient barely survived the operation, dying about six hours later from prostration and shock. In contrast to this patient, he remembered another—a case of peritonitis in a child—that had all the characteristic symptoms of acute, violent peritonitis. This patient was seen by Dr. W. H. Byford, who gave valuable assistance in the treatment. The child, who was but seven years old, was obliged to take twenty drops of tincture of opium every hour and a half for two days at a time, in order to control the intense pain, and it seemed as if it was impossible for it to live from one hour to another; fluctuation was found more marked in this case than in the other, but, notwithstanding all these unfavorable symptoms, this little patient made a gradual, slow, tedious, but

yet permanent recovery. He believed we ought not to subject a person to so dangerous an operation as laparotomy without proof of the presence of pus. It seemed to him that a serous fluid might become absorbed and the patient recover, where an operation would very likely cause death.

DR. CHARLES WARRINGTON EARLE said he had nothing new to add in regard to the ordinary general treatment of pelvic cellulitis or abscess, but he was practically interested in exactly the questions that had been asked by Dr. Sawyer. He spoke of the terrible cases which he supposed all physicians meet occasionally. He had probably seen half a dozen during his fifteen years of practice. These cases have a history of pelvic pain and inflammation, and finally a discharge of pus, which continues for weeks and months, and sometimes years. At last some of us are called in and find that the woman is suffering from chills, a high temperature, feeble pulse, and is greatly exhausted. He wanted the older members to tell what should be done with such cases. Is there any hope for a woman in this condition? A few months ago he was called in consultation with another physician to see a lady who had a constantly discharging abscess, until she was nearly dead from exhaustion. The question in his mind was, and it was one he would like to have discussed, would it do any good to open the abdomen of such a woman and clean out those pus pockets? Have we any experience which will give us a moderately safe rule by which to proceed in such a case, where death is absolutely certain if something out of the usual line is not done? He hoped some light would be thrown on this question.

DR. HENRY T. BYFORD thought that the treatment of the first stage had been spoken of too slightly. He had seen much irreparable harm done by the failure of physicians to promptly recognize and properly treat the acute attacks. There is no doubt of the positive influence of opium on the peritoneal part of the inflammation, of sedatives on the arterial excitement, of absolute quiet of body (opium acts largely by quieting all motion in the bowels), and of the local application of heat. But he protested against the early indiscriminate use of the vaginal douche. He had known it to do decided harm.

He attributed the lack of hopefulness, in speaking of the management of suppurating cases, to the lingering influence of past experience. In the light of our present knowledge, the lines can be drawn much more definitely. A pelvic abscess should, of course, be opened wherever it may point, whether in the vagina, rectum, or under the skin. When the primary outlet is made through the skin, the treatment, being entirely antiseptic in character, leaves nothing to be desired; when made through the vagina or rectum, the outlet must be as nearly as practicable at the most dependent portion, for strict antisepsis being impossible, drainage should be perfect. Spontaneous primary openings through the cutaneous surface that do not admit of a thoroughly antiseptic management must be modified so as to admit of it; and openings through the vaginal or rectal walls, that do not secure adequate drainage, must be made to do so. The most troublesome of these abscesses are those that have formed an opening into the bladder or alimentary tube beyond reach, and do not completely empty themselves through it. When such is the condition, rather than cut through solid tissue by the vagina or rectum, we must, if the condition of the patient be critical, have recourse to laparotomy.

But making an outlet through the abdominal walls is of questionable benefit, unless accompanied by the more important part of the operation, viz.: the obliteration of septic pockets and establishment of perfect drainage through the vagina or rectum. But there are some abscesses producing serious symptoms before pointing below or externally, which were originally, or have become, abdominal or supra-pelvic in character. These, according to the latest experience, should unquestionably be evacuated by means of laparotomy, whenever they cannot be reached extra-peritoneally. But a large majority of them are hematoceles, very many of which could and should have been operated upon from below, before a threatening abdominal abscess had developed. Therefore, under proper and timely treatment from the beginning of the attack, but few cases of pelvic abscess would require laparotomy.

DR. W. H. BYFORD wished to make two or three remarks with regard to certain abscesses which had not been touched upon during the evening, viz.: such as do not break, do not discharge but remain as chronic cavities for a number of years. He had had an opportunity of tracing three such cases for twenty-three or four years, and in each of them there had been found serous in place of pus cavities. He accounted for it in this way: the lining membrane is an ulcerated surface, and he thought that in some of these cases, instead of the pus being discharged, these surfaces underwent cicatrization, and that there was then a cicatrized cavity in which there was an amount of serum that dissolved the pus-corpuscles, and thus causing their disappearance so as to leave nothing but a clear collection of serum—a serous sac. In the three cases mentioned, when the sac was opened, it was found to contain serum instead of pus. He had been very much interested in them, and followed them until he had proved to his satisfaction that this change actually did take place; a cicatrization of the whole lining membrane, converting it into a non-suppurating cavity containing serum.

DR. A. REEVES JACKSON said, replying to the questions that had been asked in regard to those cases in which an opening of the abscess was already established, and when the health of the patient was not unfavorably influenced by the discharge, that he would let the woman alone unless he could so enlarge the opening as to establish a thorough drainage. And in cases in which there was no opening, and in which there seemed to be evidence of the existence of pus, he would endeavor to find it with the aspirator needle introduced through the vagina or abdominal wall, in preference to opening through the rectum. In case drainage could be established perfectly through the vagina and abdominal wall, he would rely upon that. Dr. Jackson said that he had failed to make himself understood clearly in regard to the estimate he placed upon the treatment of the early stages of pelvic cellulitis. He approved of the vaginal douche, hot applications over the epigastrium, and opium, the latter being his sheet anchor, more particularly in peritonitis than in cellulitis. He thought that in many cases, by lessening the pain, the pulse was reduced and the temperature lowered. He simply felt that these methods of treatment do not reach the bottom of the difficulty, but in the absence of anything better he had always used them. He had never used leeches, but thought they might be beneficial. The blood is not withdrawn directly from the congested vessels, but its loss may affect the

part as would venesection in the arm or elsewhere. In conclusion, in a case of pelvic abscess, when a woman was dying from rapid pulse, high temperature, and the constitutional disturbance that these things always bring in the train, other means having been tried unsuccessfully, he would perform laparotomy, because in many of these cases, even if the operation should fail, the patient is not made materially worse. He had come to believe that constant invalidism is not preferable to death.

DR. DE LASKIE MILLER reported a

CASE OF EPITHELIOMA OF THE UTERUS—TREATED BY MERCURIC NITRATE—RESULT SIX YEARS AFTER TREATMENT.

This case derives its interest from the extent of the disease, the treatment, and the condition of the patient since treatment and now.

Mrs. R., wife of a physician, came under my care about eight years ago, affected with epithelioma of the uterus. When the case was first examined, a considerable portion of the cervix had disappeared, and the disease had extended to the *os internum*. The hemorrhage had been frequent and severe, and the ichorous discharge was constant. The general health had been greatly impaired.

Treatment.—Granulations were removed by the curette, and nitric acid was applied. Tonics and a generous diet were added.

After a few weeks she left the city for her home, feeling better.

She again visited the city three months later. The disease had made further inroads upon the tissues of the uterus, and upper part of the vagina. Chloride of zinc was applied and reapplied. Apparent improvement followed.

The patient came to the city at intervals for about two years, and submitted to actual treatment for several weeks each visit. Still the disease evidently advanced, though the symptoms were occasionally suppressed. The vaginal portion of the cervix had quite disappeared. The cavity of the uterus became involved, and the disease was extending over the upper part of the vagina, both anteriorly and posteriorly. The appetite, digestion, and general strength were impaired to that degree that it was manifest the patient would succumb unless the disease could be promptly arrested.

The acid nitrate of mercury was chosen as the agent, and in the presence of Dr. Jackson it was applied in the following manner: A roll of cotton, two and one-half inches in length, and as large as the canal would admit, was saturated with the acid nitrate of mercury, and introduced, reaching into the cavity of the uterus, and filling the cervical canal, and a small portion left dependent into the upper portion of the vagina. This application was left undisturbed *in situ* for seventy-two hours, and undoubtedly it is to this fact that the result is due.

After the cotton was removed, an extensive slough came away.

The subsequent granulations appeared healthy, and in two weeks the patient left the city, since which time I have not seen her.

This last application produced more than a local effect, viz., a more severe pytalism than that which affected this patient it would be difficult to imagine, and this was attended by an intensely jaundiced appearance of the entire surface of the body.

The following extracts are from a letter received, a few weeks ago, from the husband:

"MY DEAR DOCTOR:—I received your letter a few days ago; must acknowledge my carelessness in not writing to you; have often thought I ought to write to you in reference to my wife's condition and state of health since her last treatment. The current of time has borne us along on smooth waters; all enjoy reasonable health, peace, and prosperity. Mrs. R., during the past four years, with the assistance of my daughter, has performed the duties of a housewife, with all the cares and work, except when she has been laid up for a day or two with sick headache. She has it to-day the second time in eight weeks; am giving her a new remedy which has increased the intervals between the attacks two weeks. I do not think the ulceration has ever appeared since the last treatment; have not examined her with speculum for several years. The uterus rests upon the perineum and seems heavier than it ought to be, and of late has been the cause of much disturbance of the rectum, requiring its replacement. She suffers some pain occasionally, and the menses are sometimes very profuse. There has not been any discharge of water since you applied the nitrate of mercury. It was heroic treatment, but I believe it saved her life, and I shall ever feel grateful to you and Dr. Jackson for your kindness towards Mrs. R. and myself."

TRANSACTIONS OF THE OBSTETRICAL AND GYNECOLOGICAL SOCIETY OF ST. LOUIS.

Stated Meeting, March 18th, 1886.

DR. W. M. MCPHEETERS, *President, in the Chair.*

ENCYSTED PESSARY.

DR. T. L. PAPIN exhibited to the Society a Hodge's hard-rubber pessary, which by boiling had been made to assume a circular form, and had thus been used for the purpose of relieving proci-dentia. The doctor found the pessary imbedded deeply in the tissues of the cul-de-sac of Douglas. After its introduction, cellu-

litis had supervened, with subsequent hypertrophy of the tissue, so that the ring had become completely imbedded. The doctor cut down upon, but could not remove it, then with a long handled saw he cut out a segment, and was thus enabled to slip it out as a lady would remove an earring from the ear. The proliferation of tissue had completely cured the procidentia, and as this cicatricial tissue was left intact, the removal of the pessary did not in the least interfere with the result. Although this pessary had been introduced seven years previous, Dr. P. said that it was by no means true that so long a period is necessary to complete the imbedding of a pessary, as he has seen a case in his own practice in which a pessary in the course of two months had become thoroughly imbedded, so that an operation was necessary for its removal.

DR. L. CH. BOISLINIERE considered the imbedding of the pessary, in the case related by Dr. Papin, an admonition to the gynecologist of the necessity of carefully observing a pessary after its introduction, in order to anticipate any tendency to cut into the tissues. If this does not take place within a week after the introduction of the instrument, however, he concludes that no such effect will occur. He deprecates the haste of some gynecologists who introduce the pessary before the uterus has been replaced, and considers it a very grave mistake. For effecting a reposition, he makes use of an instrument devised by himself, or of a Sims' repositor. The latter he considers the most valuable instrument invented by Dr. Sims. Dr. B. admits a limitation of cases in which reposition must be attempted, but he does not consider adhesions, where there is an absence of pelvic cellulitis or peritonitis, as contra-indicating the use of the repositor and reposition of the uterus. He has never met with a case of adhesions such as he refers to, which could not be easily broken up without causing injury. Of course, he would consider any attempt at reposition, where cellulitis or peritonitis exists, as extremely injudicious. Hodge's pessary he looks upon as a very valuable instrument: an ordinary rubber teething ring also answers an admirable purpose in the virgin uterus; it is easily bent and soon assumes the shape of the sacrum, transforming itself into a Hodge's pessary. The instrument devised by Dr. Gehrung is an admirable anteversion pessary, and is so recognized by Dr. Mundé and other writers; it offers no impediment to coition, but must be carefully watched, as it tends to turn. Dr. B. considers that it answers an admirable purpose in anteversion, especially in cases of cystocele and prolapsus of the uterus in the first degree, and in prolapsus of the anterior wall of the vagina. He has never seen a case in which Gehrung's pessary had done any harm by causing erosion or by cutting. Dr. B. had removed a gold-globe pessary with the forceps, which had been imbedded for years, causing a purulent discharge, and resembled a tumor. He considers the ordinary soft-rubber ball a good pessary for clinical cases on account of its extreme cheapness; he makes use of it frequently at his clinics. By expressing the air it is readily introduced, and then, becoming inflated, serves to support the uterus very nicely. Of course, it is necessary to remove such ball pessaries frequently for purposes of cleanliness, but the patient can be taught to do this. Another

method of treatment, which to some extent dispenses with the pessary, is the dry treatment, the use of cotton, jute, and oakum tampons, which was so admirably explained to the Society by Dr. Engelmann at a recent meeting.

DR. T. L. PAPIN related the case of a German lady whom he had seen some years ago, who had worn a wooden ball pessary for four years. When she presented herself to him and begged him to remove it, she was in a pitiable condition. On removing the pessary with a pair of forceps, the fenestra was found to be completely filled with thick, cheesy mucus secreted by the vagina. After cleansing the parts thoroughly, he directed the use of a weak solution of perchlorate of potash, and within a few weeks she improved beyond recognition.

DR. GEO. J. ENGELMANN thought the subject upon which the preceding speakers had touched, *i. e.*, the evils resulting from the use of pessaries, should be elaborated. He said it was time that the profession at large should know something of the abuse of the pessary; the instrument had been too freely used by ignorant and inexperienced persons, physicians who have no idea of the anatomical relations of parts, and even by midwives. The pessary was a valuable and necessary instrument, and one which could not be replaced for the particular object for which it was intended, in proper cases; but it by no means subserved all the purposes for which it had been used. Like intrauterine applications of the tincture of iodine, it had been used too frequently and indiscriminately. The pessary should be used only in a healthy pelvis, to support healthy organs, displaced by reason of the relaxation of the tissues; it should be inserted only to aid an organ which is healthy, or nearly so, to replace or to strengthen the weakened supports. If we have displacements which are the result of disease, we should direct our efforts toward the relief of the disease which causes them, and if, after curing the disease, the displacement still persists, we should use the pessary to correct that.

A great many practitioners use the pessary because they have read the glowing accounts which have been written of the benefits derived from its use, and it is high time that the evil results are recorded, as well as successes. A great many very sad cases result from the improper use of pessaries; the class of cases of which Dr. Papin spoke, in which the pessary is imbedded in the tissues, is perhaps the most striking, but least frequent and least serious. He has frequently seen cases in which cellulitis has been caused or aggravated by the use of the pessary; he now has under treatment a patient, the wife of a physician, who came to this city some two years ago for the treatment of some uterine disorder, and her condition was then somewhat improved. She returned last year for further treatment and a pessary was used, but not giving satisfaction, one after another was tried, the patient being exhorted to bear the pain caused thereby, as the result would be satisfactory in the end, until at last she was forced to her bed and compelled to return home, where she spent the better part of six months on her back. She was now under his treatment for chronic cellulitis. It is true that the uterus is displaced, but no attempt can be made to replace it. Cellulitis probably existed in a mild form before pessaries were used, but her present pitiable condition is due to the ill-advised and improper use of these instruments. This case is by no means an isolated instance; the gynecologists meet with many such cases, where thoughtless and

inexperienced practitioners have used pessaries under circumstances which do not warrant their use, and, in consequence, inflammatory conditions are excited in the adjacent tissues, uterus, ovaries, or ligaments. We readily see what anteversion and antelexion pessaries amount to, when we remember that Dr. Thomas has invented no less than thirteen or fourteen, and himself admits that he is not satisfied even with the last.

There are hundreds of different forms of pessaries, every shop is stocked, and immense numbers of them are sold. It is true that a vast amount of good can be done by judicious use, but they must be inserted only if the surrounding tissues are healthy, after the disease which caused the displacement has been relieved, if not overcome, or when the uterus is low down in the pelvis by reason of a lack of vigor in the pelvic tissues which support it; and even in those cases Dr. E. prefers to inaugurate a curative treatment, deeming the pessary curative only in isolated cases.

DR. W. L. BARRETT thought the pessary, when properly fitted, in suitable cases, a curative instrument. It rectifies the position of the uterus, helps to restore the circulation to the normal, and takes off pressure, and consequently betters cellular troubles. Any instrument which causes pain or irritation is pernicious. If the practitioner has the requisite skill to adapt the pessary to the requirements of the case, it will be a curative instrument, but if the instrument is imperfectly fitted, or if it be a case which is not suitable for wearing a pessary, it will do harm. All pessaries should be made of malleable material. Every case requires a different shaped pessary, and he does not consider a pessary of any value except Hodge's. Dr. B. believes that no instrument was ever invented which would do good in anteversion; that no woman will tolerate the pressure on the bladder which is produced by the anteversion pessary. The only benefit derived from the anteversion pessary is by way of lifting the uterus, anteverting it a little more, and freeing the ligaments from pressure in that way. He considers the pessary valuable in diseased conditions of the uterus; and not made solely to correct malpositions; that few malpositions can be corrected by the pessary—none except the backward displacement. Dr. B. calls attention to Dr. Emmet's health line in fitting pessaries, when cellular inflammation exists about the uterus, the patient is placed in the erect position, the uterus is slowly elevated on the inserted finger, when the point is reached at which a sense of relief from the dragging down and pain is obtained, it indicates the point at which the uterus should be held. Dr. Emmet contends very properly that there is no normal position of the uterus; that the position of the uterus varies in different women, and perhaps in the same woman at different times. Of course, in order to derive benefit from the use of the pessary, the uterus must be placed in the normal position. Any instrument which holds the uterus too high, puts the tissues on the stretch and does as much harm as if no pessary were used, and the uterus dropped down below the normal. A great deal of skill is required to adjust the instrument to the individual case, and but few know how to fit the pessary, but when properly fitted, in suitable cases, it is an invaluable instrument.

DR. T. L. PAPIN considers the pessary to be to the uterus what the suspensory bandage is to the testicle, or the splint to a broken leg. He certainly would not use the pessary in acute vaginitis, acute peritonitis, if the uterus were immovable, held by old adhe-

sions, or in cases of cancer; but these are exceptional, and in other cases the pessary answers an admirable purpose. The womb is not fixed in any given position in the pelvis; its very purpose precludes this idea; it is attached by broad and round ligaments very loosely, and depends upon the surrounding parts for its support. If the woman stands on her feet, it dips down; if she lies on her back, it dips backward; if she leans forward, it dips towards the bladder; if she becomes pregnant, in the first few weeks, it falls down, because its ligaments are unable to support the very slight additional weight of its body, so that the uterus has really no stationary normal position; but for ordinary purposes and for the purpose of making ourselves intelligent, not only to the student but to the practitioner, we have accepted a normal position. In cases of posterior prolapse, no one remedy has done so much good in his hands as the pessary, modified to suit the individual case; but, as a rule, he finds that, by simply selecting the different sizes of pessaries which are to be obtained, he has succeeded in making his patients very comfortable. He would feel unable to continue the practice of gynecology if deprived of the use of the pessary.

TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF LONDON.

Meeting of Wednesday, April 7th.

DR. BLACK, *Vice-President, in the Chair.*

The following specimens were shown:

1. *Naegele Pelvis*, by Dr. W. S. A. Griffith.
2. *Infant one month old with Fusion of the Phalanges of the Right Index and Middle Fingers* (living specimen), by Dr. John Phillips.
3. *Hemato-salpinx with Ovarian Cyst*, by Dr. John Phillips for Dr. Playfair.
4. *Meningocele in a new-born Child*, by Dr. Benington.

The following papers were read:

ON CONTRACTION, INHIBITION, AND EXPANSION OF THE UTERUS.

By J. MATTHEWS DUNCAN, M.D.—The uterus proper, or its body, is chiefly considered, but not to the entire exclusion of the cervix uteri and vagina. Contraction is temporary, and followed by relaxation and return to original dimensions. It may be morbid in force, in duration, in rhythm, in extent. Contractions in childhood are believed to be present, and in the whole of menstrual life and especially in menstruation. They are morbid in dysmenorrhea spasmodica, and may be tetanic. The rate may be six

in an hour. Contractions perhaps occur in a fibroid, certainly around it, and especially at menstrual periods. The healthy contractions of pregnancy to which Braxton Hicks has devoted much attention are considered. They may be morbid and painful. Then come the contractions of abortion and miscarriage, and labor at term, and in the puerperal state. When do pains commence? Then the commencement of labor is discussed; it is not the commencement of contractions, but of inhibition and of retraction. The internal os uteri is not the weakest part, but the fundus, at least according to mechanical principles. Stretching of fibres does not explain commencement of labor. The uterus grows to a size, and it is expanded by growth and a very slight force. The analogy of urination and of defecation with labor is considered. The necessity of inhibition of the circular fibres of the lower segment of the uterus is considered. Morbid changes of inhibition are pointed out. Lastly, the power of arresting and inducing contractions is mentioned.

DR. HERMAN had had under his care in the London Hospital a case somewhat analogous to the examples of painful uterine contractions during pregnancy which Dr. Duncan had related. It was that of a patient with fibroids of the uterus, who suffered from severe paroxysmal uterine pains throughout the intermenstrual period, these pains being only absent during menstruation. She was treated with ergot which aggravated the pains. The cervix uteri was then dilated, after which the pains ceased, and they were absent for two or three months. They then returned, and the cervical canal was again dilated, and the pains again removed. After this he lost sight of the patient.

DR. CHAMPNEYS said that the antagonism existing between the opposite poles in the uterus had been called polarity by Reil, and he thought it was a convenient term and concise. Although Dr. Duncan had expressly stated that he was not now discussing polarity, it had formed a considerable part of the discussion on his paper, and Dr. Champneys had made these few remarks on that ground. He thought that spontaneous yielding of the cervix could not be denied in face of the following facts. In labor with contracted pelvis the head is sometimes arrested above the brim, the membranes present in the shape of the finger of a glove; but in spite of these conditions the cervix is found by the hand (introduced perhaps for the sake of turning) hanging flabby and relaxed almost as if labor had already occurred.

Again, it sometimes happens that the os tincæ refuses to dilate and remains rigid, however strong the labor; pains may be under these circumstances great, retraction may take place, and Bandl's ring may be felt high up, the lower uterine segment being greatly thinned, the polarity is disordered. The expansion which should possess the lower pole of the uterus is replaced by contraction and the result is a deadlock. In such a case, in presence of accidental hemorrhage, he had turned by bipolar method, brought down a foot and (apparently from reduction in contents of uterus) the cervix relaxed. He thought that it could not be maintained that the external os was stronger than the internal. He would ask Dr. Duncan whether he had been able to distinguish the contractions

of the vagina from those of muscles near it. Painful labor pains during pregnancy were like those of other hollow viscera in which disorderly contractions produced colic.

DR. BRAXTON HICKS, without discussing the whole paper, wished to point out a fact not alluded to, viz., that during the last six weeks of normal pregnancy the os and cervix were in a large number of cases patent enough for one or two fingers to be readily passed in. When proceeding to induce labor at seven and a half or eight months, he was often able to employ at once the largest size of Barnes' bags. The subject of the paper could not be fully discussed without this fact being taken into account.

DR. W. S. A. GRIFFITH, referring to the effect of electricity on the uterus, remarked on the great differences of opinion held by different observers, most of whom, however, appeared to agree with Dr. Horrocks that it was of little value in causing or treating uterine contractions. Dr. Kilner, in a paper read two years ago, pointed out the value of the interrupted current in diminishing the suffering in labor.

DR. HORROCKS said that physiologists have formulated a law that whenever a muscle contracts, its opponent relaxes. This law is applicable to all muscle, voluntary or involuntary. He illustrated the law by reference to various groups of muscles. The sphincter of the orifice of the cavity is the opponent of the walls of the cavity. Hence the cervix uteri relaxes when the fundus contracts. This is a physiological process known as inhibition, and doubtless has some nerve centre in the spinal cord or sympathetic plexuses presiding over it. If the longitudinal fibres in the cervix assist in opening the cervical canal, they are no doubt acting when their opponents, the circular fibres, are relaxing. Have we any means of affecting this inhibition and contraction by drugs or electricity? In his hands electricity has failed to bring on labor. Chloroform, chloral, and opium may to some extent inhibit uterine muscular action, but not electricity. The rhythm of the contractions is an interesting study.

DR. BOXALL distinguishes two varieties of rigidity, muscular and fibrous. One or both are frequently operative, and they are often combined. The treatment must vary in the two cases. In omitting to relegate the rigidity to its cause may possibly be found the varying results obtained by electricity.

DRS. GALABIN, GRAILY HEWITT, G. ROPER, and CLEVELAND also made remarks, but their reports were not received in time for publication.

DR. MATTHEWS DUNCAN, in reply, said that he was much fortified in his own views by the general concurrence of the gentlemen who had spoken. Some supposed differences of opinion were the result merely of different meanings of terms.

CASE OF MITRAL STENOSIS IN LABOR.

By DR. GEORGE COATES.—The patient was 22, and had suffered from rheumatic fever, but had no suspicion of heart disease. She had suffered from anemia and breathlessness. The labor began on October 23d, 1885. On the 24th she felt faint several times. On examining the heart, a presystolic murmur at the apex was detected. In the evening the os was fully dilated and she showed signs of exhaustion, the forceps were put on and delivery accom-

plished. The pulse varied in the next two hours from 180 to 130, then it fell to 108; in the morning to 76. The murmur disappeared on and after the tenth day. On November 13th she had a rigor and sharp pain in left breast, one elbow, etc. She was treated for acute rheumatism, and recovered; the murmur quite disappearing.

DR. HERMAN thought Dr. Coates' case interesting and instructive. He would be largely guided in the management of heart disease during pregnancy by Dr. Angus Macdonald's writings, but he thought that author took too unfavorable a view of the prognosis. Published cases and consultation cases contained too large a proportion of bad cases. Dr. Coates' case showed that pregnancy and labor might be gone safely through.

DR. CHAMPNEYS and MR. E. S. TAIT also made remarks on Dr. Coates' paper.

TRANSACTIONS OF THE ALUMNI ASSOCIATION OF THE WOMAN'S HOSPITAL IN THE STATE OF NEW YORK.

Stated Meeting, May 19th, 1886.

DR. J. B. HUNTER, *in the Chair.*

Morning Session.

DR. WM. E. MOSELEY, of Baltimore, read a paper on

THE INFLUENCE, FROM A CLINICAL STANDPOINT, OF CICATRICIAL TISSUE IN THE ANGLES OF A LACERATED CERVIX.

Dr. M. first spoke of the manifest importance of the subject and of its neglect by many authors, especially in England and on the continent. In the descriptions of the reflex nervous symptoms caused by a lacerated cervix, most writers took but little notice of the importance of the influence of the cicatricial tissue which was often found at the apex of the tear; some (Wylie) denied that there was any cicatricial plug, and consequently that there was any need of excising it. Goodell (*AM. JOURN. OF OBSTET.*, vol. xvi., p. 124) considered that the presence of a hardened mass at the apex of the tear was an indication for its closure. Mundé said ("Minor. Surg. Gynecol.," second edition, p. 433) that "the cicatrix also presses on the terminal nerve filaments in the cervix, chiefly in the upper angle of the rent, and, through communication with the sympathetic system, produces reflex neuroses in the pelvis, down the thighs, along the back, and in different parts of the body" and again (*Ibid.*, p. 438), "the dense cicatricial substance by compressing the terminal nerve filaments gives rise to multi-

tu-dinous and diverse reflex neuroses in other parts of the body, from which the patient vainly seeks relief." No one, however, had spoken more positively than did Dr. Emmet, who said ("Prin. and Prac. of Gynec.," 1884, p. 486): "We cannot ignore the clinical fact, which has been observed by many, that after nature has repaired the injury by partially or completely filling the gap between the flaps, by cicatricial tissue formed in the process of healing by granulation, marked reflex disturbances will sometimes be established."

The reader then related in detail the histories of four cases, selected from the material at his command, with special reference to the matter at issue. The patients all had lacerations, the edges of which had glazed over; there was no eversion and no marked inflammatory trouble, but in each case there were marked induration of the angles of the rent and serious reflex nervous disturbances, irregular pains, headache, weakness, anemia, etc. The patients were first treated faithfully by the ordinary methods of hot douching, painting the vaginal vault and cervix with tr. iodi, puncturing distended follicles, etc., with but slight relief from their symptoms. When finally an operation was decided upon, the removal of the indurated tissue was in each case thoroughly accomplished, the resulting relief being always marked and immediate, the nervous symptoms disappearing entirely, and the patients gaining much in flesh and strength.

He could cite many more cases, but these were enough to prove his point; as for himself, he was thoroughly convinced of the correctness of his views. He did not attempt to advance any new theory, but called attention to Emmet's teachings and the importance of removing all cicatricial tissue from the angles of a lacerated cervix.

DR. WYLIE said that he had before sought to show that it was not the presence of cicatricial tissue in the angle of a lacerated cervix which caused reflex troubles, but the diseased glands. Unless the cervical tissue was diseased, the laceration would do no harm, provided that it did not extend to the vaginal junction and impair the sphincter muscle. He sought, in operating, rather to remove the diseased tissue than to obtain perfect union of the edges of the wound. The mass at the bottom of the angle was really indurated muscular tissue, which was quite hard normally. According to Paget's definition of cicatricial tissue, the expression used by the reader was not strictly correct. As regarded the *technique* of the operation, Dr. Wylie said that he preferred to excise a smooth, wedge-shaped piece from the cervix with a sharp knife, since the scissors made a ragged wound.

DR. CLEVELAND agreed with Dr. Moseley, and his experience had confirmed him in the belief that there was usually, beside the "plug," a condition of subinvolution; it was mainly important to excise the mass of hardened tissue, and when this was done, involution would be completed.

DR. INGALLS thought that the removal of the hardened plug

would often cure the case even if union was not obtained; he cited an instance in which this had occurred.

DR. HARRISON, after enjoying numerous opportunities of observing the effects of cervical laceration, both in his own and in Dr. Emmet's practice, had seen such results from operation that he felt compelled to believe that the removal of the plug was necessary. He often found a cicatricial band running outward from the laceration in the parametran tissue. Breisky, who had been taught the operation by Dr. Whitwell, a former interne of the Woman's Hospital, had obtained the most gratifying results in cases in which there was a cicatricial plug, as regarded especially the removal of reflex symptoms.

DR. RILEY cited a case in which the operation had been done by some one who had neglected to remove the cicatricial tissue at the angle; the symptoms were not at all relieved until a second operation was done to remove the hardened masses, when the relief was immediate and marked.

DR. BAKER thought that the importance of the subject was not at all overrated. Troubles arising from laceration of the cervix comprised from ten to twenty per cent of all uterine cases. Dr. M.'s cases did not especially prove the point that cicatricial tissue caused the trouble. He cited a case in which the operation was apparently performed properly, but the symptoms were not relieved; the cicatricial tissue was not removed, the line of union being dense and hard, and showing a marked plug. When the latter was removed the patient was cured. He thought that there was a condition beside the cicatricial tissue which caused the symptoms, there was hyperemia and areolar hyperplasia of the connective tissue of the cervix, leading first to enlargement, and then to contraction, this cirrhotic change causing the indurations.

DR. TOWNSHEND had seen the operation done by superficial denudation, the stitches subsequently cutting out and the wound closing by granulation, but the patient's symptoms were nevertheless relieved.

DR. A. P. DUDLEY firmly believed in this operation. He thought that failure often resulted from the presence of fungous endometritis; the cervix should never be closed until this endometritis had been cured. He paid more attention to this point than to any other.

DR. COE desired to criticise the expression "cicatricial tissue" from an anatomical standpoint. He read extracts from former articles of his own, showing the skeptical position which he had always maintained regarding the structure and clinical features of the so-called "cicatricial plug." He doubted (1) that the indurated tissue in the angle of a lacerated cervix was, properly speaking, of a true cicatricial character, (2) that it contained nerve filaments to any extent, and (3) that it produced, clinically, so many "reflex neuroses" as were popularly ascribed to it. He had sought in vain for microscopical evidences of compressed nerves. The normal cervical tissue was hard, and in old patients often semi-cartilaginous. Under the microscope it was not easy to distinguish the latter from the so-called cicatricial tissue. Clinically he had rarely, or never, met with a case in which firm pressure upon the indurated mass at the angle of a cervical tear caused the patient to complain of extreme local or reflex pain. Moreover, there was always room for doubt as to how much of the pain was due to direct pressure on the "plug," and how much was to be

ascribed to intrauterine or periuterine inflammation. Dr. Coe further called attention to the fact that the cervix uteri was one of the least sensitive regions in the body. In conclusion he disclaimed any intention of denying entirely the existence of reflex genital neuroses.

DR. HARRISON said that the intra-vaginal portion of the cervix was not sensitive except when hyperemic, then it was exquisitely sensitive. He had seen a case shortly before where vomiting was induced whenever the cervix was touched; there was hyperemia and ovaritis. In another instance the cervix was insensitive except one point at the angle of the rent which was extremely tender.

DR. GOFFE did not believe in doing the operation without anesthesia. He had seen it attempted once, but the patient complained of great pain, and the operation was far from being a neat or successful one.

DR. COE said that he had laid stress on the point that the cervix was not, as a rule, highly sensitive. He had seen a number of cutting operations performed without ether, and had observed that the pain was much less than in minor operations in other regions of the body.

DR. TOWNSHEND thought that Dr. Coe was mistaken; while the normal cervix was not sensitive, the *diseased* cervix, and especially the cicatricial plug at the angle, was highly so. He had done the operation without ether, injecting first Magendie's solution Mx. , and then cutting out deeply the sensitive angle. The patient had suffered from a rapidly increasing loss of vision which was cured by the operation.

DR. HUNTER agreed with Dr. Moseley in his clinical deductions; it did not matter what the tissue was called. He had operated on about nineteen cases without ether, and had not had much difficulty: there was but little pain, especially in old chronic cases where there was not much hyperemia. He had met with several cases in which the "skin operation" had been done, where a secondary operation was necessary in order to remove the old plug.

DR. MOSELEY, in closing the discussion, said that when the fibrous tissue (the so-called "cicatricial plug" of Emmet) was dissected out, the rest of the cervix was left soft and normal in consistency. The cases which he had reported had no lesions except the cicatricial plug, no eversion, etc., to cause symptoms. He had done the operation under cocaine anesthesia; while this drug dulled the sensibility of the immediate surfaces to be denuded, he had found exquisite sensitiveness when he attempted to pass the deep sutures. This would seem to support the view that the cervix was more sensitive than some of the members supposed.

DR. A. PALMER DUDLEY, of New York, then read a paper on

THE SURGICAL TREATMENT OF SUBINVOLUTION.

Dr. Dudley said that this condition was not particularly noticed by gynecologists, and that there was especially a paucity of histological evidence as to the nature of the condition. Retzius, of Sweden, had called attention to this twenty years ago. The reader then gave a history of the physiological processes leading to an increase of uterine tissue and to involution and subinvolution.

The terms areolar hyperplasia, chronic metritis, and subinvolution were often misapplied. Most writers gave more attention to chronic metritis (which was a misnomer) than to subinvolution. He had sought to discover the histological conditions present in this affection and would give the views of various authors. Dr. W. H. Welch, in a personal letter to him, had stated that he could find no evidence of any true inflammatory process in subinvolution. Cohnheim had reached, practically, the same conclusion.

The usual treatment of subinvolution, by local remedies, iodine, phenol, douches, etc., even when faithfully carried out, relieved the patient only for a time; the uterus again increasing in size, and the symptoms returning when the treatment was suspended. The reader believed that Emmet's operation for lacerated cervix was the best means of curing subinvolution, even when there was no laceration. He then gave in detail the histories of twelve cases of subinvolution, all of which suffered from pelvic distress and dragging, supra-pubic pain, backache, leucorrhea, etc., the uterus being tender on pressure. Seven of these cases had laceration of the cervix; in six there was no laceration; ten suffered from dysmenorrhea; eight from constipation and dysuria. Treatment by means of hot douches, iodine, glycerin-tampons, the tapping of cysts, curetting, etc., was faithfully carried out, and the patients were relieved but were not cured.

After this, hystero-trachelorrhaphy was done where the cervix was lacerated; in the other cases, a slender wedge was removed from the cervix, the apex of the wedge being carried deep enough to divide the circular artery. The depth of the uterine cavity was in all cases carefully measured when the patients began treatment, before the operation was done, and again some time afterwards. Of these twelve cases, there was in all a marked diminution in the length of the uterine cavity and improvement in the symptoms; in three cases where there was displacement, the uterus returned spontaneously to its normal position; a thirteenth case, in which the wedge-shaped mass was excised, was complicated by the presence of a large fibroid; here, after ninety days of ordinary treatment, the uterus measured three and three-quarter inches (a diminution of one-quarter inch by treatment); fifty-four days after the operation, the uterus measured two and five-eighths inches, and there was marked relief from symptoms and diminution in the size of the fibroid.

DR. CLEVELAND thought that the views just expressed were very sound; surgical treatment was the best. He had performed the operation when the laceration was but slight, and had obtained the most happy results. He did not believe that the operation was too frequently done by gynecologists. Slight tears should be closed where there was subinvolution.

DR. INGALLS thought that many cases would be damaged by the operation in relation to future pregnancy. He could not conceive of marked subinvolution except as the result of some injury to the uterine tissue.

DR. MOSELEY believed with the reader that in *true* subinvolution a thorough operation would in most cases do good; in cases of *enlargement of the unimpregnated uterus*, he had performed it with no result.

DR. BUCKMASTER considered the seat of pain in cases of subinvolution to be in the utero-sacral ligaments which would be found to be very tender; he doubted whether surgical treatment was as efficacious as was represented. He did not believe that measurements of the uterine cavity were reliable, no two men could measure the same cavity alike, nor would one man get the same results at different times.

DR. VAN NEST thought it necessary to remove some cicatricial tissue, but he did not see how simply removing a V-shaped piece of undiseased tissue would do any good.

DR. BAKER had seen some temporary results from medication, but the uterus grew large again after cessation of the treatment; he thought that the results of surgical treatment would be better.

DR. DUDLEY said that subinvolution was always the result of some injury, but not necessarily a cervical laceration; it might be from too early rising after confinement, uncleanness, instrumental delivery, forcible removal of the placenta, etc. He cut the circular artery purposely to rapidly deplete the uterus, and by interfering with the circulation to promote atrophy, and thought that this measure made the cure more rapid. The removal of the V-shaped piece was necessary to reduce the size of the cervix. In these cases of subinvolution, while the mucous membrane and submucous tissues were hard, the tissues beneath were soft. His thirteenth case was a good example of the benefit resulting from the operation. He had offered the results of his own experience to serve as a guide to those who had not had the opportunities offered by the Woman's Hospital.

In the absence of DR. THOMAS L. AXTELL, of Waterbury, Conn., his paper on "Hobbies in Gynecology, and the Importance of Avoiding them" was read by title.

Afternoon Session.

DR. JAMES B. GOFFE read a paper on

THE DIFFERENTIATION OF THE VARIOUS KINDS OF PELVIC CELLULITIS.

In the light of the knowledge yielded us in late years through careful post-mortem research, and through the findings during laparotomy, the reader had come to the conclusion that pelvic cellulitis had been dethroned from the prominent position it had held in uterine pathology, and that in its place we must substitute salpingitis and peri-salpingitis, oöphoritis and peri-oöphoritis, periuterine adenitis and lymphangitis, peritonitic bands and adhesions. When cellulitis as such occurs, it is acute in its nature and harmless in its action, for it leaves no trace behind such as may be detected by the pathologist. The small indurations around the uterus, deemed by Emmet to be evidence of cellulitis, had been unquestionably shown to be the result of peri-

tonitis. Large exudations around or to one side of the uterus were due to plastic peritonitis. These exudations may either be absorbed or break down into pus, in which latter event we had pelvic abscess. The reader believed it a rare occurrence to find such a collection of pus primarily in the pelvic cellular tissue. The original cause of these abscesses, exclusive of the puerperal condition, was disease of the ovary or tube. The tissue involved was a serous membrane, and not the pelvic areolar tissue.

DR. W. GILL WYLIE agreed in the main with the views advanced in the paper. He most certainly believed that the pathological factor at the outset was disease of the tube or of the ovary. He would differ from the reader, however, in the opinion that the pus remained intra-peritoneal. If not absorbed, the pus became encysted, and then became really extra-peritoneal. When the pus exceeded a certain amount in the tube—from three to six ounces—it either burst into the peritoneal cavity, or else perforated into the pelvic cellular tissue, and then we had a pelvic abscess in the sense that it existed in the areolar tissue underneath the peritoneum.

DR. A. P. DUDLEY related the history of a case of ovarian cyst where, on laparotomy, the peritoneum was found healthy, but beneath it, in the cellular tissue, existed an abscess containing fully a pint of stinking pus. Here then we had an abscess which was limited to the cellular tissue, and primary there.

DR. W. M. POLK was requested by the chairman to participate in the discussion, and said that the essential point seemed to him to be that of treatment, however much we might differ in regard to pathology. A tube dilated by pus or mucus was often presented by the laparotomist in justification of his operation. The speaker thought, however, that we ought to carefully differentiate our cases. He believed acute cellulitis to be only acute salpingitis with peritonitis. In certain cases of the kind, if the patients be put to bed and treated after Emmet's method, they get well after some months, and, on examination, the tumor and tenderness have disappeared, and the uterus is again movable. Such patients continue to menstruate, and they bear children. In another series of cases, however, the tumor does not subside, but the acute lapses into the chronic, and here rest in bed, counter-irritation, and glycerin did no good. The only hope of cure lay through laparotomy; else, the recurrent attacks of peritonitis would kill the patient. Lawson Tait has shown us how to cure such cases. The cellulitis of the past, therefore, has merged into the salpingitis of the present.

DR. H. C. COE desired to correct the impression that he had stated in his paper, read at the last meeting, that such a condition as cellulitis did not exist. He read passages from the paper in question, to prove the contrary. He had seen clear cases of pelvic abscess in which neither tubes nor ovaries were at all affected.

DR. GOFFE, in closing, stated that, even though the pus did become encysted, it is still intra-peritoneal, although shut off from the general peritoneal cavity. As for Dr. Dudley's case, he thought it was too imperfect in detail to prove it a case of extra-peritoneal abscess.

DR. BACHE MCE. EMMET read a paper on

THE ABUSE OF INTRAUTERINE MEDICATION.

The reader passed in review the various discharges from the uterus, and showed that, whilst their source was usually from the mucous membrane of the organ, this was only a secondary source, the primary being pelvic congestion, cellulitis, distended tube. Obviously, therefore, intrauterine medication was not only not indicated, but might be the cause of serious damage to the patient. Before we make the diagnosis of endometritis, we must carefully seek for a cause of the discharge external to the uterus. A slight prolapse of the uterus, whether due or not to cellulitis, would cause pelvic congestion, and this, in turn, discharge from the uterus. The same reasoning held with versions and flexions of the uterus. Anemia, chlorosis, polypi, fibroids were also causes of discharge, and must be carefully differentiated before we resort to intrauterine medication. A concealed cause, overlooked by all but the careful observer, is laceration of the cervix extending up the canal to the internal os, and healed only externally. Here again intrauterine applications are not indicated for cure, but repair of the laceration. In all these conditions, intrauterine applications, being misdirected, not only fail to do good, but are harmful. The average time of cure is shorter when these applications are not resorted to, for thus relapses, due to our own misjudgment, are avoided. Endometritis is by no means the common ailment that daily talk would lead one to expect.

DR. T. ADDIS EMMET, in discussing both this and Dr. Goffe's paper, said that discharge from the uterine canal was a symptom and not a disease. For seven years he had not made an application to the endometrium, except where there evidently existed granulations. On looking over his records, he found that his patients required seven weeks' less treatment than formerly when he had been in the habit of making intrauterine applications. Applications to the vagina were as efficient, and far safer. As regarded cellulitis, the name mattered not. There existed something which must be treated with respect. He was glad of the discussion, because it might lead to correct opinions. That we may have an inflammation of the cellular tissue could not be questioned. After a time, the cellular tissue became destroyed and disappeared, and the peritoneum became affected, the vagina being drawn up against the broad ligament and its contained tube. Hence why pathologists could not find old exudations in cellular tissue. Whether the exudation be cellullitic or peritonitic, the main question was how to get rid of it.

DR. W. H. BAKER stated that he could not speak from the standpoint of the pathologist, but that clinically he agreed with Dr. Emmet in regard to the importance of getting rid of the exudation, wherever its site. He believed that in most cases the inflammation began in the peritoneum, and affected the cellular tissue secondarily. Septic absorption was an almost invariable cause of cellulitis. In regard to the tolerance of the peritoneum of pus, it must be granted that cases varied markedly. He would agree entirely with Dr. Bache Emmet in regard to the importance of most careful differential diagnosis before resorting to intrauterine

applications. He thought, however, that there were very few men nowadays who considered leucorrhœa anything more than a symptom. We should always endeavor to determine whether endometritis is primary or secondary before resorting to treatment.

DR. W. GILL WYLIE said that he was not in the habit of making intrauterine applications frequently, but that he did advocate their proper use in suitable cases. He first made a clear diagnosis always. In acute cases he did not use them, nor where the uterus was fixed. In case of dysmenorrhea, after dilatation, he made an application to the internal os. In any event he was always careful to have the cervical canal open, and he made application through the silver tube. He thus secured drainage and antiseptics. The uterine sound he rarely resorted to, and he always watched his cases a long time before employing the applicator.

DR. T. A. EMMET asked Dr. Wylie what he proposed to accomplish by applications.

DR. WYLIE stated, in reply, that in dysmenorrhea he aimed at treating the hyperesthesia at the internal os, which he believed to be the source of the symptoms. After curetting, he resorted to applications for purposes of antiseptics.

DR. B. EMMET, in closing, said he was sorry the discussion had turned on dysmenorrhea and divulsion. His paper aimed at warning the profession at large against the abuse of intrauterine applications.

DR. J. DUNCAN EMMET then read a paper on:

IMPRESSIONS OF GERMAN AND ENGLISH GYNECOLOGY, BY AN ALUMNUS OF THE WOMAN'S HOSPITAL.

The reader gave an interesting sketch of the methods of various operators, referring, in particular, to their neglect of American procedures, and to the small esteem in which American gynecology was held. His impression was that in the plastic surgery of women the Germans were far behind the Americans, whilst in laparotomy they were most at home. Gynecology, pure and simple, was not a specialty in Germany. The obstetricians largely performed the plastic operations, whilst the general surgeon fell the laparotomies. In England, gynecology was beginning to emancipate itself from obstetrics. The reader then referred to the good results obtained at the Samaritan Hospital by Bantock and Thornton, notwithstanding the one was a strong advocate of Listerism in all its details, whilst the other would have nothing to do with it. At Birmingham, he had had ample opportunity to witness Mr. Tait's operative methods, and came away impressed, as all are, by his skill in diagnosis and operation, and by his little short of wonderful results. In conclusion, the reader stated that he would account for the better results obtained by laparotomists in Europe on the grounds that, first, they could choose their patients and time for operating; second, the females operated on were, as a class, stronger than here; third, assistants are dispensed with as far as possible; fourth, strict cleanliness is aimed at.

REVIEWS.

THE THEORY AND PRACTICE OF OBSTETRICS. By P. CAZEAUX. With additions and revisions by S. TARNIER, Professor of Obstetrics and Diseases of Women and Children in the Faculty of Medicine, Paris. Eighth American Edition. Edited and Revised by ROBERT J. HESS, M.D., Physician to Northern Dispensary, Philadelphia. With an Appendix by PAUL F. MUNDÉ, M.D., Master in Obstetrics of the University of Vienna, Professor of Gynecology at the New York Polyclinic and at Dartmouth College, etc., etc. Philadelphia: P. Blakiston & Co., 1886, pp. 1,202. Vols. 2.

The popularity of this classical treatise is sufficiently attested by the fact that an eighth American edition has been called for. No obstetrician, be he young or old, needs to be reminded of the great value of Cazeaux's labors, and of the deep impress on all obstetric literature, native and foreign, exercised by this master-mind through his encyclopedic work. Professor Tarnier, to whom, at Cazeaux's death, was intrusted the revision of the work, aimed to keep it thoroughly in accord with the progress of the art, and the edition under review has been judiciously revised by Dr. Hess, of Philadelphia. In the laudable desire to make the book fully in sympathy with the state of obstetric practice and progress to-day, the publishers requested Dr. Paul F. Mundé to prepare an appendix, wherein subjects might be amplified which did not receive sufficient consideration in the body of the work, and wherein questions of prime importance to every practitioner might be discussed, by a capable American authority, in the light of the most recent knowledge and opinion. The body of the work, needing no introduction, and calling for no special criticism, will not detain us. Our concern is with the appendix, on the worth of which hinges the question as to whether Cazeaux and Tarnier's conjoined labors have been made more useful, and a classical treatise more complete.

In the preparation of this appendix, Dr. Mundé associated with himself his assistant, Dr. Brooks H. Wells, assigning to him the preparation of the chapters on Hygiene and Dietetics, Anesthetics and Narcotics, Antisepsis, and Obstetric and Gynecic Jurisprudence. To bring these subjects up to date required careful research and judicious selection, and Wells has evidently spared neither in his effort to make these topics valuable and complete. The chapters on Posture in Obstetrics, External Obstetric Manipulation, Puerperal Fever, Puerperal Cellulitis and Peritonitis, Lacerations of the Genital Organs, Primary Puerperal Hemorrhage, The Diagnosis and Treatment of Extrauterine Pregnancy were specially prepared by Mundé. A glance at the above chapter headings shows the eminently practical nature of this appendix, certain of the subjects, furthermore, being such as rarely find sufficient, if any, space in treatises on obstetrics, to the detriment, we believe, of both the general practitioner and of his patients.

The first chapter considers the hygiene and therapeutics of

pregnancy, labor, and the puerperium, the subject of placental expression, the value of electricity in the gravid and post-gravid state. Credé's method of placental expression is strongly advocated, the more so because, in the body of the work, the barbarous and irrational method of placental delivery by traction on the cord is recommended. We are satisfied that Credé's method fails, in the hands of many attempting it, for the reason that they lack specific information in regard to the manner of making expression. They resort to expression too soon. In this appendix, the directions are concise, and the capital point in the method is brought out, that expression is only indicated and of value when the uterine sphere is felt to contract. In one respect we disagree with the author in his management of the third stage of labor, and this is the direction to administer ergot after the birth of the child, and before the delivery of the placenta. This advice, whilst in accord with the practice of the majority of, at least, the older general practitioners, is in disaccord with the dictum of most authorities. We, personally, can find no excuse for this premature administration of this drug. Further on in this chapter the graphic words in which Barnes describes the action of the drug, and the possible tetanoid contractions of the uterus which may follow its administration, are quoted with approval, only, however, in so far as the remarks apply to the second stage of labor, for, in the next paragraph, the statement is made that in the third stage of labor, "My routine practice is always to give ergot immediately after the birth of the child; . . . and in an extensive experience, I have yet to note any ill result from its use in this manner." The experience of one man, however, differs from that of another, and we have heard of cases where, through the premature administration of ergot, the placenta has been locked up, not to the radical detriment of the mother, it is true, but causing much concern both to her and her friends, so anxiously is the advent of the after-birth awaited by all in the lying-in chamber. And what is to be gained by the administration of ergot before the delivery of the placenta? Nothing, except where there exists a great degree of uterine inertia, and here there are other means and agents at our disposal for spurring the uterus without running the possible risk of evoking, to quote Barnes, "a brutal power like that given to Frankenstein." Ergot is administered to secure tonic contraction of the uterus. We do not seek for this tonic contraction till after the placenta has been delivered. We need not fear post-partum hemorrhage until after the placenta has been delivered, for, in such an event, being on the spot, we may remove the placenta manually, and at once give ergot hypodermically. We seek in vain, therefore, for justification of the advice in regard to ergot contained in this chapter, and we condemn the advice more strongly because we believe that many a young practitioner will be attracted by the name of Mundé to read this appendix, and will start out in life with knowledge which may be dangerous, even though it emanates from such a high authority. On the subject of the management of the breasts, with special reference to mastitis, the author condemns strongly the routine practice of rubbing and manipulating these organs, recommending the method in use at the Maternity Hospital, New York, which has given such excellent results, and which depends on bandaging and rest. The bandage in use at this institution, devised by the head nurse, is described, and we trust every reader

of this appendix will give the method a trial in place of the manipulations ordinarily resorted to, for the evidence points to the fact that hereby abscess may be certainly prevented.

Of the drugs noted in this chapter, it is with pleasure we find such a prominent place given to chloral. For controlling false pains, for regulating the pains of the second stage, for annulling after-pains, for the nausea and vomiting of early pregnancy, we know of nothing so valuable in most instances. Cotton root (*gossypii radix*) the author has found useful in metrorrhagia resulting from subinvolution; mistletoe (*viscum album*), it is stated, has decided oxytocic properties, differing from ergot, however, in the fact that it does not tetanize the muscular fibres of the uterus; viburnum is considered a standby in threatened abortion; cocaine has been found to possess surprising effects in the nausea and vomiting of pregnancy; hyoscyamine, in addition to its sedative and anesthetic properties, would seem, from a case related by Wells, to possess marked oxytocic properties, and is certainly worthy of trial in case of mania during labor, although, the alkaloid not being official, the safe dose is rather doubtful. Electricity receives in this chapter the prominence which it deserves, and we believe for the first time obtains sufficient recognition in a treatise on obstetrics. As the author says, "No one in this age of progress can dare say where or when the limits of electric power or application will be reached," and he proceeds to show that no one need be deterred by the question of cost of apparatus, or necessity of prolonged study of the mysteries of electricity—from utilizing either the galvanic or faradic current in the vomiting of pregnancy, the induction of premature labor, the destruction of an extrauterine fetus, subinvolution, and as an oxytocic in normal or complicated labor. The value, indeed the pre-eminence, of electricity in extrauterine pregnancy is noted at length in a separate chapter. For the other conditions it is probable that, in the near future, electricity will supplant many of the measures and agents to which we resort at the present day.

The subject of Posture in Obstetrics is dwelt on at sufficient length in the next chapter, and valuable hints are given in regard to the remedying of malpresentations and prolapse of the cord by change in the position of the parturient. The reposition of the gravid uterus by posture and atmospheric pressure, although a most valuable method, claims, we think, a trifle too much space. The observation of the phenomenon occurred independently, about the same time, to Mundé and to Solger, of Berlin, and the method usually will alone suffice for remedying the displacement. There are cases, however, where, possibly owing to undue projection of the sacral promontory, something additional to pneumatic pressure is requisite. The fundus must be dislodged from the hollow of the sacrum, and this may be accomplished by gently drawing down the cervix with a tenaculum. The author, of course, is familiar with this, but, since he is writing for non-experts, it would have been wiser to have laid stress on the point.

The following chapter, On External Obstetric Manipulation, is an admirable exposé of a subject which has received but scant notice in every treatise on obstetrics with which we are familiar, and yet is one of paramount importance to the practitioner. In this country, indeed, it constitutes the weak point of the majority of physicians, that they do not know what is to be learned by palpation, and what may be done through it. The routine custom

here is simply to make a vaginal examination. It should be the rule of every practitioner to do what is inculcated in this chapter, first carefully palpate the abdomen, if possible before labor has begun, and thus assure a diagnosis which, reached by the vaginal examination alone, is incomplete and often imperfect. The material for this chapter is drawn largely from Mundé's papers on Abdominal Palpation which appeared in this JOURNAL in 1879 and 1880, although written nearly ten years previously. The matter is supplemented by extracts and cuts from Pinard's monograph. The chapter is complete and concise, and at last there exists a treatise on the obstetric art where the student and general practitioner will find, in ample detail, information in regard to one of the most important subjects connected with pregnancy.

The chapter on Anesthetics discusses at length the agents which have quite recently been advocated as of value during labor—ethylic bromide, methylene bichloride, nitrous oxide. The conclusion reached is that "the superior advantages of any of the agents mentioned above over our old friends chloral, chloroform, and ether, have not yet been conclusively shown," and that, for the present, chloral remains the agent *par excellence* in the first stage of labor, chloroform during the second, and chloroform or ether for any operation requiring complete anesthesia.

The following chapter, on Antiseptics, describes the various measures and substances of use for this purpose, and the methods applicable to hospital and private practice. The author's belief in regard to the efficacy of any special antiseptic is clearly exemplified by the following quotation: "The essential element of successful antiseptics may be embodied in one word—cleanliness; and the most comprehensive rule for its application in two—be clean. So long as we obtain this ultimatum, it matters little how we proceed or what means we employ, pure water showing as favorable a record in one man's hands as strong mercuric solutions in another's." This is broad enough doctrine for all of us to stand upon, if it be only remembered that there is vast difference between practice in a public institution and in a private house. The measures indicated towards securing cleanliness of the surroundings and of the puerpera must necessarily be far more stringent in hospital practice. In this chapter this fact is sufficiently recognized, and the directions towards obtaining aseptic conditions in both spheres of practice strike us as ample enough without going to the absurd extremes which are frequently advocated. After normal delivery, both vaginal and intrauterine injections are deemed unnecessary, unless symptoms calling for such interference arise. In hospital practice, and in private where there exists suspicion of gonorrhœa, Credé's method for the prevention of ophthalmia neonatorum is indorsed. The chapter concludes with a timely note of warning against the use of strong solutions of the sublimate salt, for there are cases on record of fatal poisoning from a 1:1,000 to 1:1,500 solution. Mercurial douches, it is stated, would seem to be contra-indicated in cases where there is a history of renal disease, or there exists marked anemia, or extensive lacerations of the genital tract.

The chapter on Puerperal Fever, which follows, is admirable. In a few short pages the subject is most satisfactorily presented, and withal robbed of the manifold subdivisions which characterize the generality of obstetrical treatises. Mundé does not commit himself to the germ theory of the disease, since this whole

subject is "in its infancy, and so unsettled as to leave it a matter of doubt whether, in the majority of infectious diseases, the bacteria produce the disease or the disease generates the bacteria." It is a point of no practical importance, however interesting to the pathologist and to that product of this century, the bacteriologist, whether one or another coccus is at the basis of the disease. Sufficient for the practitioner the knowledge that the disease is a poisoning, that this poison comes from without—in the vast proportion of cases certainly—and that the one means of prevention is cleanliness of self, of patient, of attendants, and of surroundings. Mundé then believes "the majority of cases of so-called puerperal fever to be, in reality, cases of puerperal septicemia," the sepsis usually coming from without. In exceptional cases his experience forces him to believe that transmission is through the atmosphere "by a so-called *status epidemicus* (referring to cases in private practice), unless I join the small minority of obstetricians, at the head of whom, in this country, stands Fordyce Barker, who still firmly believe in the occurrence of puerperal fever as a zymotic disease *sui generis*." Such a disease, he admits, *may* exist, but as the rarest of exceptions. The symptomatology of puerperal septicemia is clearly and concisely pictured, and the treatment is fully in accord with what the latest experience has taught as being the best. The deductions as to treatment, being founded on ample personal experience as a consultant, will be of assistance to every reader, in particular the points in regard to the limitation of intrauterine irrigation. This chapter, in fact, is decidedly the gem of this appendix.

Mundé has shown his wisdom as a clinician in devoting separate space to the subject of puerperal cellulitis and peritonitis. To consider these affections under the broad subject of puerperal septicemia has always seemed to us a mistake, as needlessly complicating one of the most difficult of comprehension of all obstetrical subjects, and as tending to fix the mind of the student too much on sepsis, and too little on the fact that high temperature, and chill, and rapid pulse, may mean local inflammatory trouble, where certain of the measures called for in the treatment of general septicemia, originating in the vagina, or cervix, or endometrium, are contra-indicated. It is clearly shown at the outset in this chapter that, in the early stage of febrile disturbance in the puerperal state, it is impossible to differentiate between septicemia and local inflammatory peri-uterine trouble, yet how many practitioners jump at the conclusion that the symptoms mean sepsis, and at once begin to douche vagina and uterus, to the infinite damage of the patient. In septic endometritis, intrauterine irrigation is of value, in cellulitis it does harm. The consideration of these topics in separate chapters calls attention to the fact that they are separate affections, that the course is different, as also the prognosis and the treatment. Intelligent treatment must be based on clear diagnosis, and this chapter, as well as the preceding, will teach the practitioner the necessity of careful local examination before resorting to what may turn out to be harmful local treatment, and furthermore he will have impressed on him the fact, too often forgotten, that cellulitis occurring during the puerperium, does not necessarily imply sepsis. Annexed to this chapter is a colored lithograph showing in reduced form the five most valuable of Fritsch's demonstration plates, thus defining the localities favored by, and the limits of, peri- and para-uterine exudations.

The two succeeding chapters concern lacerations of the genital organs and the primary operation for the repair of the ruptured perineum. We question if the pages devoted to the etiology and pathology of cervical lacerations are not out of place in an appendix to a work devoted entirely to obstetrics. We find no fault with the subject matter, but we think that if the author had limited himself to a brief statement of the means to be taken to prevent cervical laceration, he would have accomplished all that is necessary in this place. Neither the student nor the general practitioner is presumed to seek for information in regard to the baneful local and general effects of this lesion in an obstetrical treatise, but rather at once will consult some one of our standard works on the diseases of women. It is different with perineal lacerations. It is of prime importance for us all to recognize the fact that a lacerated perineum should be sutured at once, except in those rare cases where there exists some contra-indication, and in this respect this appendix makes a material and valuable addition to Cazeaux's treatise. Concise directions are given for the prevention of the lesion, through relaxation of the muscles and retardation of the advance of the head, however, and not through the classical, but, it is to be hoped, soon to be entirely rejected method of support, and, in the following chapter, the primary operation is carefully described.

The diagnosis and treatment of extrauterine pregnancy next claim consideration. The varieties of ectopic gestation are wisely limited to three—tubal, ovarian, and abdominal—these being the only forms which may be differentiated during life. The sketch of the symptoms is complete without needless detail, and as for treatment, the agent *par excellence* is stated to be electricity for all varieties before the end of the fourth month, in exceptional instances at an even later period. Either galvanism or faradism may be used, the latter being just as efficient, and yet the apparatus not as bulky. Unquestionably, in this country, this method of treatment is the sole one to which any physician will be tempted to resort, for it has been tested in about thirty-five instances, and uniformly with success. In Europe, the method, strangely enough, is slow to gain recognition. Possibly the instructive series of cases appended to this chapter will succeed in persuading our transatlantic brethren that to-day there can be no question of the superiority of electricity over either puncture or injection of the sac.

In the concluding chapter, a complete, condensed account of the points in obstetric and gynecic jurisprudence of value to the practitioner is given. An excellent chromo-lithographic plate, representing the external genitals of the virgin, nulliparous, and parous female, precedes this chapter.

It is clear, we believe, from the above analysis, that this appendix decidedly adds to the usefulness of Cazeaux and Tarnier's treatise. In a word, a classical treatise has been rendered complete.

EGBERT H. GRANDIN.

HANDBUCH DER FRAUENKRANKHEITEN.—A HANDBOOK OF DISEASES OF WOMEN. Edited by DR. TH. BILLROTH, Professor of Surgery at Vienna, and DR. A. LUECKE, Professor of Surgery at Strassburg. Second, entirely rewritten, edition. Three volumes. Stuttgart: Ferdinand Enke, 1885, 1886.

The second edition of this encyclopedic work comes to us en-

tirely rewritten, and, therefore, owing to the great progress made of late years in the department of medicine of which it treats, is practically a new handbook. Owing to the deaths of Professors Mayrhofer and Hildebrandt, vacancies were left in the rank of the original staff of contributors, and the editors filled the gap by the selection of Professors Müller and Zweifel. The article on Inflammations of the Uterus has been prepared for this edition by Professor Fritsch.

In judging of the worth of the contents of this handbook, we necessarily must subject it to the test as to whether it be complete and good, according to the practice of gynecology in this country—the birthplace of most that is modern in the art, and where, as a pure specialty, it exists to a degree as yet unattained on the Continent. Especially do we make this statement, because we have noticed an apparent reluctance on the part of our German brethren to concede to us what is rightly our due. Reference to the French and British literature is common enough. American literature and methods are too often overlooked, or but casually referred to, and therefore experiences of great interest, and technical details of undoubted worth find no place in works such as the one under review, although the intention is to publish a treatise complete in all that pertains to the art. The truth of this statement we will have frequent occasion to justify in the course of our review.

For the present we are concerned purely with the first volume of this handbook, leaving for the future the analysis of the remaining two.

General diagnosis and therapeutics are discussed in full, and, generally, in a commendable manner, by Professor R. Chrobak. He divides his subject into two parts, the first being devoted to a description of the methods of manual and instrumental examination, and the second to a general sketch of our therapeutic armamentarium. A marked defect in the first part is the absence of detailed reference to the rational history, and the special value of the symptoms thus obtained, in which respect either Courty's or Mundé's book, for instance, is far superior. The necessity of careful examination of the various organs of the body, before reaching the conclusion that there exists disease of the uterus or its appendages, is, however, recognized and emphasized. The various methods of examination—inspection, palpation, percussion and auscultation, the bimanual, etc.—are separately considered, and the stress laid upon each is very much in accord with the practice in this country. Chrobak falls into the very common error of believing that American gynecologists agree with the English in their choice of position for digital examination. A casual glance at any of our text-books would have taught him that here, even as in Germany, the dorsal position is considered by far the best for making the bimanual, and that the left lateral position is reserved for specular and instrumental examination. This latter position we are pleased to find described correctly in words, but we miss a cut, a scarcely pardonable omission, when we find that a far less generally used and available position—the knee-chest—is deemed entitled to representation. It is Chrobak's opinion, however—an eminently just one—that for the application of the speculum, the passage of the sound, of applicators and dilators, the exposure of the anterior vaginal wall, etc., the Sims position is far superior to the knee-chest. We would add further

that, in the experience of American gynecologists, for the above and other purposes, the left lateral position is also far superior to the dorsal, even though it be open to the objection that the service of a nurse or assistant is necessary—a weak objection, for if this position be the best, it is the duty of the gynecologist to provide himself with a nurse or assistant, granting for the moment that the presence of a third party is indispensable. The sections devoted to manual examination need not detain us, for they are complete. We note only the fact that examination of the rectum by the entire hand is rightly stated not to be advised unless absolutely necessary for purposes of diagnosis. "The more expert the examiner, the better will he be able to examine the rectum by the finger alone, by which means better results are often obtainable than by the half-hand," and, furthermore, without the dangers which accompany the latter method. The use of the sound, its limitations and contra-indications, are carefully and correctly noted. The use of this instrument to test the mobility of the uterus is condemned, but not as strongly as we believe it should be. In case the mobility of the uterus cannot be determined with sufficient exactness by the bimanual, we would never use the sound for this purpose, or any instrument taking purchase at the fundus, but select one or another of the instruments used as redressors, and which take their purchase at the external os. Where damage results from the use of the sound, Chrobak believes this rather to be due to infection than to mechanical violence. He is cognizant of two cases of fatal septic parametritis, the outcome of sounding, where no injury to the uterus could be detected. The specula described are few in number, but some of these might well have been weeded out. We shall hail with pleasure the advent of a work on the diseases of women in which it is not deemed essential to figure more than two specula—the cylindrical and the Sims. These two forms are ample for every purpose, and the latter is indispensable for some—a fact recognized by Chrobak more fully than is the custom of his compatriots. The indications for, and the methods of, dilatation of the uterus for purposes of diagnosis receive ample consideration. The subject is divided into bloodless and bloody dilatation of the cervical canal. Under the former heading are ranged tents, hard-rubber and steel-branched dilators, under the latter, the hysterotome and discission. Of tents, preference is accorded to the sponge, although the utility of the tupelo is granted. In one respect we must differ with the author, and this is his practice of following one sponge tent by another, in case sufficient dilatation has not been secured by the first. This practice we believe to be dangerous, and it has been proved so here by the frequent fatal results, not so many years ago, when sponge tents were more in favor with us than they are at present. A study of American literature might possibly cause our author to favor the sponge tent to a less degree, and persuade him to substitute for it the tupelo in every instance, except where it is necessary to differentiate between a high degree of hyperplasia and the hard variety of cancer. We are speaking now purely of the use of tents as dilating agents; where it is a question of therapeutics, the sponge is of higher value than the tupelo, but a second should never be introduced immediately on the withdrawal of the first. The steel dilators described by Chrobak are the inefficient Ellinger—where dilatation sufficient for digital exploration is aimed at—and the clumsy Schultze. Once more the author, by re-

ference to recent American works, might have learned that there exist better instruments, such as the Sims (modified by Wylie), the Palmer, the Goodell-Ellinger. The subject of discission by the hysterotome or knife claims sixteen pages. As a diagnostic measure, this operation to-day is with us practically obsolete, seeing that we can attain the same end by resort to the tupelo tent or dilators, without subjecting our patient to the same risk. As a therapeutic measure, also, discission has fallen into disuse, it having been amply proved, in particular by Goodell, that divulsion through steel dilators will ordinarily suffice for overcoming flexion and dysmenorrhea; the results, at least, are as good as formerly obtained in the era of discission, whilst the risk is certainly smaller. The remainder of this part is devoted to artificial prolapse of the uterus, and to the diagnostic excision.

The second part opens with instructive remarks on the relation of gynecology to general medicine, which prove Chrobak to be the right kind of a specialist, that is to say, one who does not practise in a rut, but from the standpoint that the body in general, or some one of the organs remote from the uterus, is frequently obtained in fault, even though the symptoms elicited are mainly uterine. There follow sections devoted to anesthesia and antiseptics. For anesthesia, Chrobak prefers the mixture of chloroform, alcohol, and ether, and in regard to antiseptics, whilst the different agents claim ample space, cleanliness, howsoever obtained, is what the author aims at. If our author has a preference, it is for iodoform, which drug he has used, in routine gynecological work, for five years, and has only once seen slight toxic effect, and this after an intrauterine application. It would serve no useful purpose to consider in detail the pages which follow, devoted to vaginal and uterine injections and irrigation, vaginal and uterine applications, the tamponade, and local venesection. Sufficient the statement that they are very complete, minute in detail, and essentially in accord with routine practice here. Possibly some of us might object to certain of the measures of intrauterine treatment, which, if not advocated, are not condemned; such, for instance, as the leaving of a piece of lunar caustic in the uterus; but we forbear criticism, since Chrobak aims throughout his chapter to give a complete résumé of methods of treatment without forcing his own opinion unduly into the foreground. As for the tamponade, we wished the author had emphasized the point that this can only properly be done through Sims' speculum, or else in the knee-chest position. In the section on the curette, the distinction between the dull and the sharp is not drawn as it should be. The dull curette should be used for diagnosis, and is a practically harmless instrument when so used, in the absence, of course, of contra-indicating factors. The use of the sharp curette, on the other hand, requires special precautions, and its chief utility is for treatment. We believe, furthermore, that both of these instruments can only be intelligently and effectually used through Sims' speculum. The section on pessaries is generally excellent, and calls for but little criticism. In one respect, certainly, Chrobak deserves high praise, and this in that he has not burdened his pages with a multiplicity of instruments. Of all the varieties of pessaries extant, there are but few which can serve a useful purpose outside of the hands of the special inventor, and the majority are simply, after all, unessential modifications of the original Hodge. Those which we find figured are not the ones

which have served us well. The Thomas and Mundé retroflexion, the Noeggerath, the Gehrung, the Thomas open cup are all absent, and in their place the Hodge, the Graily Hewitt, the Schultze, and the Mayer ring are described. Doubtless Chrobak obtains as good results with these instruments as we do with those which we habitually use, for, after all, the choice of a particular form of pessary is largely a matter of experience. It might not have been out of place, however, in a system of gynecology, to have described, or at least referred to, the varieties of pessaries most frequently used in America, where the inventor of pessaries thrives probably to a greater degree than elsewhere. As for the introduction of any of these instruments, Chrobak recognizes the fact that the uterus must be first replaced before the pessary is inserted, but we miss specific detail as to the manner of insertion—the stumbling-block to both student and practitioner. We are pleased to find that, whilst Zwanck's instrument is figured, it is to condemn it. The intrauterine stem claims considerable space, more so than to-day we personally are inclined to think it deserves. We believe that the stem is being used with us less each day, and we are glad of it, for the instrument is a most treacherous one, and is capable of inflicting far more damage on our patients than it can possibly do good, unless it be watched more carefully than it is in our power to do. That Chrobak recognizes this is evident from the fact that he gives careful rules for the insertion of the instrument, and enjoins watchfulness whilst it is being worn. Indeed, the section will serve the useful purpose of making the reader beware of the stem, reserving it, as he should, strictly for those rare cases where other instrumental measures fail in giving the desired relief. In the concluding sections, the application of abdominal bandages, massage, and subcutaneous and parenchymatous injections are described. Appended to this chapter, and such is the rule with all the others, is a reference index to the literature of the subjects considered. In general, Chrobak's contribution to this handbook is a valuable one. We regret to find no reference to aspiration as a diagnostic measure, and to electricity as a therapeutic. These topics are both of great utility, and should receive corresponding notice in a chapter which aims to give a complete sketch of both diagnostic and therapeutic measures.

The second chapter is devoted to sterility, and to malformations of the uterus. Prof. Müller has worked out these subjects in a masterly and, withal, most interesting manner. Sterility claims nearly two hundred pages. After passing in review the various theories, ancient and modern, in regard to procreation, and the formation of the ovum and its ripening, the semen and its characteristics are briefly but concisely described. Whilst ovulation and menstruation stand generally in close connection as cause and effect, Müller does not believe that it can be said dogmatically that the one must always accompany the other. As to the manner after which the spermatozoa gain entrance to the uterus, the belief that the semen is thrown into this organ during ejaculation is considered not proved, and the motor power proper to the spermatozoon, aided, to a slight degree, by the contractility of the vagina, is deemed sufficient. Sterility in general, particularly in reference to broad subdivisions and etiology, is next considered, the conclusions reached by Müller being essentially in accord with the results of the researches of Matthews Duncan. The difficulty in the way

of correct diagnosis is laid stress upon, as well as the necessity of remembering, in any given case, that the cause may lie in the husband as well as in the wife. As general causes of sterility, climate and temperature, intermarriage, lack of sexual desire, age, are considered, each in turn, and the conclusions reached do not differ from those of Matthews Duncan, with which our readers are amply familiar. In regard to dysmenorrhea, the statement is made that the spasmodic form, being not so much dependent on disease of the genital organism as on the state of the general health, can hardly be rightly considered as a cause of sterility. It makes no difference in fertility as to whether a woman has suffered from dysmenorrhea before marriage or not. Obstruction as a mechanical cause of dysmenorrhea is not granted, neither is the same importance, as an etiological factor in sterility, granted this disorder of menstruation as is claimed for it by Duncan. Excessive development of fat is noted as a frequent cause of sterility; whether owing to alteration in the ovaries or not it is difficult to say. In two cases of the kind, where Müller examined under anesthesia, the ovaries were found normal. The author suggests, therefore, that not the ripening, but rather the escape of the ova is prevented by the adipose development. Whatever the fact, this cause of sterility is at best but relative, for frequently fertility is not diminished. As further possible general causes of sterility are noted chlorosis, scrofula, tuberculosis, syphilis. This latter disease Müller considers a less frequent cause than is customary. The non-fertility of many women affected with syphilis is rather explainable on the fact that gonorrhea, in a latent form perhaps, is often combined with the specific taint. In the next section are considered at length the diseases of local origin which may cause sterility in women. We can refer, in this place, only to those which possess for us the most practical interest. Passing by the diseases of the ovaries and tubes, which are discussed at sufficient length, we come to alterations in the shape of the cervix as a cause of sterility. Müller does not believe that conicity of the cervix is such a frequent accompaniment of the sterile condition as was claimed by Marion Sims, who, it will be remembered, found this form of cervix one hundred and seventy-five times out of two hundred and eighteen cases (not one hundred and sixteen times out of two hundred and eighteen, the figures given by Müller). He believes rather that sterility depends on the narrow external os which is a usual accompaniment of conicity of the cervix, basing his assertion on the fact that enlargement of the external os by simple incision often suffices for cure of the condition. This appears to us to be a distinction without a difference, for, whilst by incision the external os is enlarged, the form of the cervix is at the same time altered from the conical to the flat. Stenosis of the cervix, when congenital, is not of itself a prime cause of sterility, but rather the fact that, together with the stenosis, there exists obstruction of the cervical canal through retained secretion. The percentage of cases of sterility due to narrow external os is not, however, very high amongst those gynecologists who are not wedded to the doctrines of the mechanical school. According to Kehrer, this is only eight per cent; according to Müller, only four per cent. In case of narrow external os, therefore, the cause of the sterility may not depend so much on this as on a catarrh of the cervical canal—the outcome frequently of a gonorrhea; and in regard to this disease as a cause of sterility, Müller is inclined to

accept Noeggerath's well-known views. In regard to flexions of the uterus as a cause of sterility, Müller calls attention to the marked change in opinion in the last few years. Statistics are of little value in reaching a conclusion, for the reason that observers differ so markedly in regard to the normal position of the uterus, and as to what distortion is pathological or not. Müller believes that in many cases of ante flexion accompanied by sterility the distortion of the uterus is not abnormal, and that the cause of the sterility must, therefore, be sought for elsewhere than in the simple flexion. In case of congenital ante flexion, for instance, endometritis sooner or later develops, and herein we possess just as likely a cause of sterility. In a word, Müller does not think that flexions, as etiological factors in sterility, are entitled to the prominence granted them by Sims and his followers. In the two following sections, on which it is unnecessary to dwell, sterility in man is considered at sufficient length to enable the reader, in any given case, to differentiate as far as possible whether the man be at fault or the woman. There follow sections devoted to the methods of examination of the wife and of the husband, and to the prognosis and treatment of sterility in both sexes. Having once determined the cause, it may be easy to cure this, but the prime difficulty in case of sterility is to reach a diagnosis on which rational treatment may be founded. These sections on treatment are, in the main, very satisfactory. We will dwell simply on certain of the most important topics. In case of stenosis of the cervix, Müller favors discission after Schröder's method, although his object is not so much to enlarge the canal as to prevent retention of secretion behind a narrow external os, and to cure cervical catarrh. The cases are few, in his opinion, where the stenosis alone is at the bottom of the sterile condition. With regard to flexion, Müller might to advantage have consulted recent American literature for information in regard to divulsion under ether—a method which, in our opinion, is preferable to slow dilatation with hard-rubber dilators, and possibly more permanently effective, as regards rectification of the distortion. Whatever the method used, however, in case of non-success, Müller advises, as a last resort, an attempt at artificial impregnation. The want of success with this method he deems probably due to the fact that many observers have resorted to it in cases where the cause of sterility did not lie in the cervix, but rather above the internal os; or, else, where the cause lay in the husband and not in the wife. Stress is laid on these points to impress the necessity of careful differential diagnosis, not neglecting examination of the husband, before resorting to any method of treatment. Müller expresses the hope that artificial impregnation be not allowed to fall into neglect, believing, as he does, that the method, when really indicated and rightly performed, offers a fair chance of success. Experimentation on animals should be resorted to, however, in order to determine the causes of failure in man. Where endometritis is the probable cause of sterility, Müller looks for cure only through energetic local treatment of the mucous membrane. The main point in the treatment lies in curetting, for he questions if applications alone will restore the endometrium to a healthy state. As a result of such curetting, followed by applications of carbolic or iodine, he has frequently overcome sterility of many years' standing. A wide difference between this teaching and that of Emmet! We would express our belief that Müller need not

resort to curetting in every case of endometritis. A simple catarrhal inflammation of the endometrium, dependent on peri-uterine congestion, can be made to yield to less rigorous measures than those which he advocates. Where, however, the inflammation of the endometrium is of the hyperplastic kind, characterized by the presence of numerous vegetations, we believe that the curette is the necessary precursor to any method of treatment, and that the vaginal tampon, and irrigation alone, will accomplish little, if anything, towards cure. The concluding section covers, in a few pages, the subject of treatment of sterility in the male.

The second part of Müller's contribution considers the malformations of the uterus. Our space forbids detailed analysis of the subject matter. Each developmental anomaly receives sufficient consideration, and the insertion, in abstract, of the histories of typical cases adds to the interest of the pages.

The third part of the volume is devoted to the displacements and inflammations of the uterus. In the department of minor gynecology, Professor Fritsch, more than any other continental writer, is in sympathy with the prevalent views and practice of this country. He recognizes the value of the left-lateral position, and of the duck-bill speculum for purposes of examination and of treatment. Whilst an eminently independent observer, Fritsch is a close student of American literature, and not at all inclined to belittle the value of our work and of our methods. In this respect, many of his brethren might to advantage take lessons from him.

The subject of displacements of the uterus claims two hundred and eighty pages. It appears unnecessary to enter into a close analytical review of this subject, seeing that, in previous reviews of Fritsch's labors, we have dwelt at sufficient length on the points wherein we should differ with him. We content ourselves with briefly sketching the methods of treatment which, in his hands, have yielded the best results.

The normal anterior limit of motion of the uterus being, in Fritsch's opinion, one of slight ante flexion, he is not so ready, as is the custom of many, to seek for the cause of dysmenorrhea or sterility in the flexion. Rather does he believe that, in the vast majority of cases, the cause lies outside of the uterus, or else in narrowness of the external os, and its sequela—dilatation of the cervical canal from retention of secretion. Divulsion and discission, therefore, find little favor with him. Posterior discission he considers irrational. Discission of the internal os, he says, lacks specific indications, and is of such questionable utility, and may be followed by such untoward consequences, that, as an operation, it should be abandoned. Such we believe to be also the prevalent view to-day in this country. There are very few gynecologists who resort to either of the above operations. Dilatation and divulsion are now the fashion, with as good, possibly better results, and certainly lacking the dangers. In case of high degree of flexion, where other cause of dysmenorrhea or sterility has been excluded, the stem is the instrument which Fritsch favors. His praise of this instrument is, however, rather faint-hearted, and he does not use it frequently, and then only as a last resort. This is as it should be; for, as Fritsch says, during its use "suddenly may para- and perimetritis develop. Who knows but what every fatal case might have been prevented had the stem been removed in time."

For the treatment of anteversion, Fritsch prefers the Mayer soft-

rubber ring. All that this ring does is to lift the fundus upward. The same effect may be accomplished by a hard-rubber instrument—the Thomas cup, for instance—and our patients be spared the disagreeable accompaniments of the use of a soft-rubber instrument.

Retroversion and flexion are discussed with the minuteness which their frequency and importance justify. From pessaries in the treatment of these conditions Fritsch has seen no better results than is customary here—infrequent success, very frequent disappointment. The Mayer ring has answered, in most instances, better than any other form of pessary. The Thomas retroflexion he has found useful. He has himself devised an instrument—a modification of Schultze's figure-of-eight pessary, and far preferable in that it is constructed of hard-rubber—which he has used in fifty cases of retroflexion with good result. The directions for the insertion of pessaries are specific, and we are glad to see the statement emphasized that he cannot sufficiently impress the advisability of introducing every pessary in the left lateral position. This position he figures with the Chadwick table, the patient, however, reclining on the right side. Fritsch states that it makes no difference whether the patients recline on the right or left side. It seems to us, however, that the right lateral position is decidedly inferior to the left, in that the examiner's right hand cannot perform the necessary manipulations as efficiently. In regard to the operative method for the cure of retrodisplacement which is now on trial, at the time of writing Fritsch had never attempted shortening the round ligaments, or, as he calls it, "the operation of Alquíe-Aran-Freund-Alexander-Adams." He says, however, that he does not think he will be tempted to test it, because "whoever understands the manner of using pessaries may obtain such excellent results, without danger to the patient, that he need not resort" to the above much-named operation in case of retroflexion. In case of prolapsus, he states that he is able to cure much more easily and quickly through Hegar's operation.

The subject of prolapse is treated of exhaustively, and illustrated by numerous woodcuts, many of which strike us as rather exaggerated. In regard to treatment, Fritsch has but little to say about pessaries. These instruments yield him no better service than they do here. The different operative methods—Simon's, Hegar's, Bischoff's, Martin's, Winckel's, Neugebauer's (Le Fort's)—are described, and preference given to Hegar's, because, of all others, it insures the most permanent results.

For inversion of the uterus, the best method of treatment is believed to be by the colpeurynter. "It overcomes inversions where all other methods have been tested without avail." In case the colpeurynter fails, there remain but two procedures—laparotomy after Thomas' method, and amputation of the inverted organ below the external os. The advantage of Thomas' method is that, in case of success, the patient may still conceive and bear children. In Fritsch's opinion, the more the dangers from laparotomy decrease, the more frequently will Thomas find imitators. At the present day, we believe, the statement will find acceptance that resort to Thomas' method should be the rule, where the alternative is mutilation of the patient by amputation of the uterus.

In the few remaining pages are briefly described the latero-versions of the uterus and hernia of this organ.

In the second portion of Fritsch's contribution are described

acute and chronic metritis, the various forms of endometritis, erosions and laceration of the cervix, and atrophy of the uterus.

Acute metritis, apart from the puerperal state, is, in Fritsch's opinion, not an uncommon occurrence. The reason why pathologists do not describe the condition is that, if the process be limited to the uterus, the patient recovers; whilst, if the inflammation spreads to the peritoneum and the patient dies, peritonitis obscures the inflammatory changes in the uterus to such a degree that, at the autopsy, they are not especially prominent. Fritsch frequently, before the days of strict antisepsis, used to see acute metritis after sounding, injections, curetting, and minor operations on the cervix. As to gonorrhea as an etiological cause, he is inclined to question the widespread belief in the injury done to woman by this disease, whether acute or latent. Sterility and perimetritis, he says, are common in women, and so is gonorrhea in man. "But it by no means follows that the frequency of gonorrhea in the male offers a sufficient explanation for the frequency of sterility and perimetritis." For years he has been in the habit of examining, whenever possible, married men in regard to the possibility of latent gonorrhea, and to his surprise he has found that the wives of men who had had gonorrhea were as likely to bear children as they were to be sterile. The discrepancy in his findings from the prevalent view depends, he states, probably on the fact that observers do not differentiate between catarrhal urethritis in the male and gonorrhea. Whatever the case, however, if the woman be affected, it is the endometrium and perimetrium which are first diseased, and secondarily the parenchyma of the uterus. Even in severe cases, the prognosis as regards fecundity is not so very ominous. Fritsch is cognizant of three cases where, after years of treatment for gonorrheal metritis and perimetritis, conception ensued. "If such cases be rare," he says, "they still should cause us to doubt the dogma of sterility due to gonorrheal infection." We have dwelt on this subject, because the tendency to-day is spreading to lay considerable stress on gonorrhea as a cause of sterility, and it is a matter of importance that the views of such a careful observer as Fritsch should be considered. The treatment which Fritsch recommends in acute metritis is intrauterine irrigation repeated three to four times daily until the fever subsides and the discharge from the uterus becomes clean. This irrigation, of course, is based on the assumption that a septic element is at the bottom of the disorder. Even so, however, were we called upon to treat a case of acute metritis, aside from the puerperal state, we *might* wash out the uterine cavity once, but beyond this once hardly venture, in the belief that overmuch local interference with any organ of the body in a state of acute inflammation would be rather productive of harm than of good. Hot and copious vaginal douches, opium, and abdominal poultices—these are the measures we should rather favor.

Under the term chronic metritis are included by Fritsch what we here are accustomed to separate into subinvolution and areolar hyperplasia. We believe these latter terms are preferable, for the reason that in neither is there present an inflammatory process. Subinvolution is simply an arrest of a physiological retrograde metamorphosis, and hyperplasia is purely a later stage in this arrest. We had hoped the term "chronic metritis" had forever been buried, and are sorry to see it resuscitated by Fritsch. Whilst we find fault with this name, however, we have nothing

but admiration for the pages in which faulty involution, hyperplasia, the various forms of endometritis, and erosions are described. Having no criticism to make, we forbear detailed reference to matter of etiology and symptomatology, and pass at once to the practical side, that of treatment.

The treatment of what Fritsch terms chronic metritis is ranged under three heads: 1. Local and non-operative. 2. Operative. 3. General therapeutic. Since our author believes the pathological factor with which he is dealing to be one of inflammation, he naturally favors local venesection, either by leeches or the scarificator. He would thus begin the treatment of every "hypertrophied, chronically inflamed uterus." We do not question the utility of venesection. It frequently serves us well, but we resort to it, not in order to allay active inflammatory congestion, but in order to modify the passive venous hyperemia which necessarily is present in an organ in a state of subinvolution, or else, if we are dealing with hyperplasia, for the beneficial effect which follows on irritation of the cirrhused tissue. Of the value of glycerin as a depletant, of iodine as an alterative, and of the prolonged hot douche as an absorbent, Fritsch is fully convinced. In regard to the operative treatment of subinvolution, Fritsch does not allow himself to be swayed by those of his countrymen who favor amputation of the cervix. The cases are few in number, he believes, where the indication for such mutilation is exact. We would congratulate him on his moderation, for we have yet to see the case of subinvolution where amputation of the cervix for the sole purpose of diminishing the size of the body was in the least called for. We question if the large majority of women subjected to the operation in Germany would not be saved the mutilation were that most frequent of all causes of subinvolution—laceration of the cervix—recognized, and we believe that, in case of what we prefer to call hyperplasia, excision of a wedge-shaped piece from the cervix will amply suffice in place of amputation. As for the drugs which Fritsch has found useful in the treatment of subinvolution, ergot and *hydrastis canadensis* are mentioned as of value. With electricity Fritsch has had no experience apparently, for we find no reference to an agent which we believe is in the future destined to lead all non-operative methods of treatment of subinvolution and areolar hyperplasia.

Under the subdivision Endometritis are considered the subjects of erosion and ectropium (laceration) of the cervix. In regard to the treatment of endometritis in general, Fritsch's methods are practically in accord with those which are in favor with the majority of gynecologists in this country. He resorts to general medication to favor the diminution in size of the uterus; he practises incision of the external os in cases where the pathological process is kept up by retention of secretion behind an orifice which is too narrow. Alterative intrauterine applications in mild cases, preceded by the curette in aggravated, yield him good results. In regard to lacerations of the cervix, Fritsch is not in accord with Emmet and almost every American gynecologist of any note. In the fact that he recognizes the lesion, he is far in advance of the majority of his compatriots. For admitting that the operation is justifiable and often indicated, he is entitled to high praise. But surely, at this late day, he is not justified in crediting to Emmet, and to those who follow him in his practice, the statement that

the operation is performed solely for the cure of cervical catarrh, and of an eroded everted cervical mucous membrane. After all which has been written on this subject of laceration, in works and monographs to which Fritsch has access, it would appear unnecessary to be called upon to rehearse the many objects for which trachelorrhaphy is here performed. We do the operation, however, even as in Germany it is done according to Fritsch, to prevent habitual miscarriage, to modify the effects of uterine displacements, to relieve the reflex symptoms which in many cases *apparently* have their outcome from cicatricial tissue in the angle of the rent, to restore the shape to the cervix in order, frequently, to allow the proper use of a pessary. So far, we in America are in accord with our brethren in Germany. Still further, however, we perform the operation in order to reduce in size a subinvolted uterus and soften down a hyperplastic—for which conditions many Germans preferably amputate the cervix—and lastly we resort to the operation in order to prevent the development of epithelioma. The operation having been amply proved by Emmet, Thomas, Mundé, Goodell, Wylie, Hunter, and scores of others with whose writings and names Fritsch must be familiar, as able to fulfil all of the above indications, we cannot excuse the author for the little space which he devotes to a description of the operation and its aims. We live in hope that our German brethren may yet awaken to the fact that trachelorrhaphy is a restoring and good operation, whilst amputation is a mutilating and bad procedure. Those who favor the practice of the latter should be exceedingly careful how they criticise the performance of the former. The years which have gone by since Emmet first gave to the world his beneficent, if occasionally still abused operation, have not in the least rendered untrue Emmet's words: "From my standpoint, therefore, I can but denounce an amputation, with scissors, knife, or cautery, of a so-called hypertrophy or elongation of the cervix as malpractice. . . . If this so-called hypertrophy, or this elongated cervix, should prove to be simply a laceration, the sides of which can be brought together and united, so that the integrity of the parts will be as perfect as if the accident had never occurred, then to resort to ablation or cauterization is malpractice."

The last section in this volume is devoted to a brief account of acquired—in contradistinction to congenital—atrophy of the uterus.

EGBERT H. GRANDIN.

ETUDE SUR L'OPERATION D'ALEXANDER.—ALEXANDER'S OPERATION (SHORTENING THE ROUND LIGAMENTS), PRECEDED BY GENERAL REMARKS ON FLEXIONS AND VERSIONS OF THE UTERUS. By JUAN E. MANRIQUE. Paris: G. Steinheil, 1886, pp. 160.

The operation of shortening the round ligaments for the cure of displacement of the uterus has now been performed in the neighborhood of one hundred and twenty-five times. It has been received with almost universal favor in England, rather coldly in France, and in this country only one operator, Polk, has expressed himself completely in its favor as being the most effective of all methods towards the cure of, in particular, prolapse of the uterus. Mundé grants that the operation is in theory rational, and believes that, in appropriate cases, if the ligaments be found and can be shortened, the operation holds out good hope of permanent cure, but he is far from being carried away by the zeal in favor of the

operation which characterizes Alexander and his followers. In general, then, it may be said that this operation, whilst full of promise, has yet to be subjected to severe test before being accepted as the long-sought-for panacea of the ills which accompany retroversion and descent of the uterus. The majority of operators are certainly as yet unwilling to admit that pessaries, perineorrhaphy, and elytrorrhaphy have entirely lost their usefulness, and that every woman with marked posterior and downward displacement of the uterus should at once have the round ligaments shortened—the claim made for the operation by certain of its most enthusiastic supporters. As in the case of every new operation, there exists here the danger of going to extremes.

The work under review deals with this operation in a judicial spirit. Dr. Manrique first proves that in version and prolapse of the uterus there necessarily exists a lengthening of the round ligaments; then, from personal experiments on the cadaver, satisfies himself that shortening of these round ligaments will effectually, in most instances, place the uterus in proper position; and finally analyzes the reported cases of the operation, one hundred and twenty-four in number. The conclusions reached from this careful and exhaustive study are in brief: The operation of shortening the round ligaments is perfectly rational from an anatomical and physiological standpoint. It cures deviations and displacements by placing the uterus in such a position that the current of the forces, which gravitate towards the pelvis, will converge behind the organ instead of impinging on its surface. Complete or incomplete prolapsus of the uterus may be cured by this operation, except where the displacement is complicated by peri-uterine adhesions. Where cystocele, rectocele, or prolapse of the vagina complicate the uterine displacement, elytrorrhaphy should be performed in addition to Alexander's operation. If the ovaries are prolapsed, provided they be not adherent, Alexander's operation will restore them to their natural position in the pelvis. Should conception ensue after the operation, neither the course of gestation nor the phenomena of labor are affected.

The mortality from this operation varies from .8 per cent to 6.4 per cent, according as we accept the statement of Dr. W. A. Duncan or not. This gentleman says he has heard of seven cases of death, but this statement is unsupported by the record of the cases, and Manrique tells us that careful search and inquiry in London failed to give him any clue to the cases or the operators. The only recorded fatal case is one occurring here in New York in the practice of Dr. Bozeman (not Alexander, as is stated in this monograph), and where the cause of death was pyemia. From an impartial standpoint, then, Alexander's operation may be said to be free from danger, rational in its aim, and *probably* effective, easy of performance if strict attention be paid to anatomical detail, but still an operation not always feasible, because, in certain cases, the ligaments may have atrophied or have become fattily degenerated, and because we are personally satisfied, from having witnessed certain of Mundé's cases, that there exist patients in whom these ligaments cannot be found where they normally lie, notwithstanding careful and thorough search. Such cases may be of atrophy of the ligaments, but whatever the explanation, the fact is that three of Mundé's cases, where we were present, they could not be found, and we reiterate this statement, because Manrique tells us positively, basing his assertion on his own experience as

well as on that of many others, that the round ligaments are always to be found, either as free ligament or tendinous cord, within the inguinal canal. It is assuredly rational to suppose that these ligaments, as such, may occasionally be lacking, even as there are anomalies in distribution of other ligaments in the body.

There is a historical side to this operation on which we would briefly dwell. The assertion has been made by Doleris that the operation of shortening the round ligaments, if it is to receive a qualifying name, should be known rather as Alquié's operation than Alexander's. It seems that in 1840 Alquié suggested the method, but there is absolutely no record of his ever having performed it. In 1864, Deneffe actually performed the operation, but failed to find the ligaments. In 1869, Koeberlé, of Strasburg, during a gastrotomy performed for intestinal obstruction, sewed the left broad ligament in the angle of the abdominal wound, and thus permanently cured a retroversion. Koeberlé, however, admits that his operation on the ligament was simply an epiphenomenon to the gastrotomy. Up to 1881, therefore, it is clear that no operator, with the single exception of Deneffe, designedly shortened the round ligaments with the end in view of curing prolapse of the uterus. It was in this year that Alexander operated, and in the following year he published his first four cases. It is evident, therefore, that to Alexander is due the credit of proving the operation feasible, although theoretically it had suggested itself to others, and been once unsuccessfully attempted. Such being the case, if this operation must be named, to Alexander belongs the honor, for Doleris' attempt to claim it for his compatriot clearly fails of proof.

That this operation has a future we do not doubt. It must, however, run the gauntlet of extravagant claims, and be subjected to great abuse, for such is the history of all new operations, before we will be in a position to judge as to exact indications and permanency of result. We recommend Manrique's monograph to our readers as an unbiassed exposition of the worth of the operation, in so far as, at the present, this can be stated.

EGBERT H. GRANDIN.

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ORIGINAL COMMUNICATIONS.

CARDIAC NEUROSES IN CONNECTION WITH OVARIAN
AND UTERINE DISEASE.¹

BY

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ONE of the most mysterious problems in the science of medicine is the subject of "Neuroses," under which head we describe symptoms or diseases which have their seat in the nervous system, and are indicated by disordered volition, sensation, or mental manifestation. Clinically, the affection in one of its forms meets us frequently, and it is our duty to seek the cause of the nervous disturbance for its successful treatment. Cardiac neuroses, the subject for our consideration, are functional affections of the heart, unaccompanied by inflammatory changes in the organ itself.

The name neuroses applied to affections which are dependent on such changes I think is faulty; disturbances which are classed under that head, with alterations in the heart or its vessels, should be considered as symptoms of the pathological process giving rise to them, although the symptoms are what have been termed by all authors "nervous phenomena."

¹ Read before the New York Academy of Medicine, April 22d, 1886.
Sections of Obstetrics and Diseases of Women.

The true neuroses of the heart arise either in the cardiac ganglia themselves, or they are of reflex origin; it is to this latter class to which I desire to direct your attention. I do not desire to convey the idea that, because we have a nervous affection of the heart dependent on some morbid condition of the ovaries, it is necessary for it to differ from the functional disturbances due to other causes. It is the frequency of patients suffering from uterine or ovarian lesion, and at the same time complaining of heart trouble, which has led me to investigate more carefully into the relations between these conditions.

Neither do I wish to be understood that cardiac neuroses are present in all cases of uterine disease, nor that they are always uncomplicated with other neurotic affections. They are, moreover, nearly always accompanied with other reflex nervous manifestations. But I do say that cardiac neuroses are present in about eight per cent of such cases (judging from my own records) in a more or less marked degree, and that occasionally we meet a patient who will absolutely give no other symptoms, except such as relate to the heart, in whom we find some disturbance in the uterus, or its annexa, on careful examination, and who will be benefited by treatment directed to these organs. We have cardiac neuroses most frequent in females, because their sympathetic nerve centres are less under the control of the governing centres than in the opposite sex.

We will first class the forms of abnormal action of the heart, in relation to the frequency of their occurrence, into:

1. Palpitation.
2. A disturbance of the rhythm (irregularity).
3. A distinct suspension of one distinct beat (intermittency).

The fourth class of neurosical disturbance belonging to the heart is angina pectoris.

One, two, or more of these neurotic symptoms may be present in the same patient at the same or at different times. The first mentioned is, as stated, the most frequent neurosis, for the reason given. Emotions affect the circulation markedly, thereby bringing about palpitation; for example, under normal circumstances, when the heart is not disturbed, the peripheral vessels are dilated and the blood pressure in the arteries is low. Now let a sensitive female become suddenly frightened, and the normal dilatation giving place to contraction of the peripheral vessels—because the ordinary inhibition of the vaso-motor centre

is probably withdrawn—there is a rise of arterial tension, then cardiac palpitation follows, on account of the internal pressure on the heart walls being increased, and the ventricle having more obstruction to overcome.

The paroxysms of palpitation may be quite frequent, but during the interval the rhythm is normal. There are patients again in whom the excited action of the heart is more or less permanent, either alone or combined with other neuroses. It is essential to differentiate a palpitation of neurotic origin from that produced by other causes, which can readily be done by careful physical examination.

The intermittent heart stroke, which I have seen once as traceable to uterine disorder, is due to a modification of the rhythmic discharge, in the cardiac ganglia. If the intermittency is frequent and accompanied by palpitation, then it becomes significant, it probably denoting some organic lesion (atrophic dilatation of the heart, or atheromatous degeneration of the vessels, or both combined, being the usual lesion); but we know that occasionally it is congenital, and in other cases brought about by emotional causes, such as passion, joy, grief, etc. Yet when it is present and causes much annoyance to the patient, organic heart disease having been eliminated as a cause, I consider it necessary to also make an examination with regard to the reproductive organs, especially if, on questioning, other symptoms should point in that direction. Angina pectoris is the most painful of all the neurotic affections to which the heart is liable, and it is of the greatest importance, both in regard to prognosis and treatment, to differentiate between an angina dependent on organic disease, and a reflex neurosal angina pectoris. According to Prof. Loomis,¹ angina pectoris always indicates organic heart disease. The late Prof. Austin Flint, Dr. Fothergill, of London, Dr. G. L. Peabody, and many others admit the possibility of angina pectoris without organic cardiac lesion. The last-named gentleman, who is certainly a very able and thorough pathologist, told me that frequently organic cardiac lesion was suspected, and on autopsy he found none.

I myself am also inclined towards this view, admitting, however, that in the vast majority of cases the existence of this symptom, or rather collection of symptoms, does indicate a more or less serious organic lesion of the heart. The patient is for

¹ "Practical Medicine," p. 504.

a greater or less time entirely free from pain, then, most frequently through some emotional cause, an oppressed feeling about the heart is felt; they feel faint, or even pass into syncope, which may last from a few minutes to an hour or more. The heart's action is feeble, sometimes irregular, and on pressure we find the painful spots over the heart region, pointed out by an English physician a few years ago, as indicating some pathological process in the heart structure; the attacks may come on periodically for several days, during which time the patient is unable to be about, having more or less frequent attacks of fainting, and feeling very feeble, as is also indicated by the weak pulse, pale features, loss of appetite. In fact, their condition is such that one would probably be led to believe that an organic affection was present, if the condition was not examined into very minutely, and the examination limited only to the time of that illness. As above stated, the most frequent cause for such an attack of reflex angina pectoris is an emotion of some kind, differing thereby from the angina pectoris dependent on organic lesion which comes on without any provocation; but the subsequent attacks, during the few following days, may occasionally be brought about without any apparent cause, the "shock," if this term is permissible, not having yet passed off.

The pain is frequently also felt radiating down the left shoulder and arm to the hand, in which formication is often felt.

Perturbations arising from ovarian irritation, uterine displacements, or other pathological conditions in the reproductive organs, traverse a series of nerve fibrils of the sympathetic, taking their direction toward the heart, and there manifest themselves in one or more of the disturbances named.

The prognosis in such cases is always good as regards life, and in many cases the functional disturbance may also be cured by proper care and attention, especially is this the case if the neurosis is due to a marked flexion, version, or over-sensitiveness of the endometrium at the os internum.

Attention to the uterine disorder alone will not always eradicate the neurosis, especially if it be a chronic case, then the system has, so to say, become more or less habituated, as we frequently also see in neuralgias.

It is not my intention in this paper to lay down full rules for treatment; each case must be separately analyzed and treated

accordingly. The organ which is affected, and supposed to give rise to the disorder, should, of course, be primarily treated. If a displacement of the uterus, it should be reduced if possible, either by tampons or properly adjusted pessaries. Endometritis by intrauterine applications. Displaced or irritated ovaries by medicated tampons or galvanism. A sensitive os internum should be fully dilated. The application of faradism or galvanism has given me much satisfaction, applied to the painful points, in the angina pectoris of these patients; but small fly-blisters, about as large as a silver dime, applied every ten to fourteen days, have done equally well.

Internally, citrate of caffeine, belladonna, strychnia, digitalis, iron, or the bromides according to the indications.

I have noticed this form of neurosis several times in cases of ante flexion of the uterus without any discoverable ovarian lesion; these were all more or less improved or cured by treatment directed to the displaced uterus.

I will now cite a few well-marked examples where the connection existed, as was shown either by the relief or cure of the patient, induced by putting the diseased reproductive organs in a more healthy condition.

CASE I.—Pt. æt. 23, married seventeen months. Always well up to the time of marriage, when, soon after sexual intercourse, she was attacked with severe cardiac palpitation, followed soon by intense pain in the precordia, shooting through the shoulder and down the left arm and hand. The breathing was difficult. She explained her sensations as follows in her own words: "I felt as though a heavy weight was on my heart, pressing my chest, so that I could scarcely breathe. The pain over the heart was intense, it was as if at times somebody was running a sharp knife through me." A physician who was called in at the time diagnosed fatty heart. Her condition did not improve, the attacks coming now and then, and later increasing in frequency. I was requested to see her on the day following such an attack.

Physical examination showed no signs of organic lesion, except tenderness on pressure at the apex and in the second intercostal space, one inch from the sternum on the left side. Pulse feeble and irregular. On questioning, I also elicited that the patient suffered from a "dragging sensation" in the abdomen, pain in the left thigh and knee, slight pains between the shoulders and in the lumbar region. Frequent micturition and dysmenorrhea.

Vaginal examination revealed an ante flexed uterus which was tender on pressure and somewhat enlarged, due to chronic congestion of the body and endometritis. The cervix was tumid and *much* enlarged. At the os internum exceeding tenderness existed

to the passage of a probe. The left ovary was prolapsed and sensitive. By treatment the patient was entirely cured in six months.

She had one relapse of cardiac trouble about a year after treatment was stopped, when I found the uterus again displaced; that being remedied by a short course of treatment, she has been well and had a child since.

CASE II.—Æt. 43 years; married twenty-two years; two children, the last born thirteen years ago; present illness seven years. Oppression about chest, principally in the heart region, almost constant. Heart stroke intermits once in from twenty to thirty beats, which worries the patient very much; she is afraid that her heart might stop beating altogether. Pain in the lumbar region radiating to hypogastrium. Menstruates every three to four weeks, the flow continuing eight days. Organic cardiac lesion eliminated. Lacerated perineum and cervix; the cervix feels sclerematous to touch. Endometritis; both ovaries prolapsed, enlarged, and very tender (oöphoritis).

The general condition was very much improved by surgical and medicinal treatment. The intermittency has entirely disappeared.

CASE III.—Æt. 23; Hebrew; menstruation began at 14; married four years; never was pregnant. The period is regular every twenty-eight to thirty days, from six to eight days' duration; loses much blood; no dysmenorrhea. The abdomen is occasionally bloated. Constipation. The patient consults me about frequent attacks of oppression in the precordial region; she has attacks of faintness frequently, occasionally merging into syncope. When she has a severe attack, accompanied by unconsciousness, she is ill four to five days. The attacks have no marked relation to the monthly epoch. She has been examined by two other physicians previously, on account of sterility, and pronounced well with regard to the reproductive organs; the heart trouble was thought to be due to some disease in the organ itself.

Physical examination shows a very tender point on pressure over the apex; firm pressure applied here causes immediate faintness, and the pain radiates down the left arm. The first heart sound is somewhat accentuated. Pulse feeble and frequent. Taking into consideration the age of the patient and absence of any other signs on physical examination which would indicate an organic heart lesion, I considered the condition to be a neurosis, and looked for cause.

Vaginal examination is painful; there is marked tenderness behind the vaginal portion, which feels firm and hard to the examining finger; there is also slight retroversion; the body of the uterus is tender.

The introduction of a sound shows no stenosis, but excessive tenderness at the internal os; the moment the probe touches this point the patient shrieks with pain.

Diagnosis.—Reflex angina pectoris. Retroversion, first de-

gree. Endometritis; hyperesthesia of the os internum. Six months' steady treatment cured the patient entirely of her cardiac distress. The heart sounds and pulse, however, have not changed, except in frequency. The treatment adopted was galvanism over the painful spot and over the median nerve at its exit from the brachial plexus. Internally, various remedies were used. The cervical canal was fully dilated, and the cavity of the uterus gently curetted with a dull instrument; then an application of carbolic acid and glycerin made to the interior; finally, an intrauterine stem was inserted. Later intrauterine injections of iodine and glycerin. Behind the cervix glycerinated tampons.

Two years have passed without a relapse, and the patient is now in about the third month of pregnancy. I may add that, after the dilatation and curetting, the monthly flow was decreased to from four to five days' duration, and much diminished in quantity.

CASE IV.—Patient 25 years old; menstruation began at 16; married six years; two children; no miscarriage; last child four years ago. The illness dates back to the date of the birth of last child. Pains in the left hypogastric and inguinal region; frequent and painful micturition. Much nausea, but no vomiting; headaches. Frequent attacks of palpitation and pain over the heart; when an attack of pain comes on, it continues from half an hour to two hours. Dysmenorrhea; constant leucorrhœa.

Diagnosis.—Lacerated perineum and cervix. Hyperplasia uteri; slight procidentia; ante flexion with endometritis. Prolapse of the left ovary with periovaritis. Perineorrhaphy and trachelorrhaphy performed; a few months' treatment resulted in cure. I saw this patient to-day, after the lapse of nearly two years, while operating on one of her relatives, and she tells me that she has been perfectly relieved of her heart and other symptoms, until, for the past two months, she is beginning to feel the same condition coming on again, but in a much milder degree.

CASE V.—Patient æt. 32. Married ten years; three children, the last child born five years ago; menstruation began at 13 years. She has been ill since the birth of her last child; the symptoms, however, increasing much in severity for the past three months. Languid feeling throughout is complained of. Cardiac palpitation, pulse 120; pain in the region of the heart and between the shoulders; constipation; loss of appetite. The symptoms are not increased about the menstrual period. Lacerated perineum and cervix. Retroflexion with version. Treatment improved her very much, but on account of her husband's business she removed South soon afterwards, and I have been unable to hear from the lady since.

CASE VI.—Æt. 29. Married eleven years; never pregnant; menstruation began at 12 years. The present illness dates from the time of matrimony. Was said to have had inflammation of the womb four years ago. Complains principally of pain in the heart, which is described as paroxysms of "piercing and sticking," and in the intervals as a dull, continuous pain, which tra-

verses down the left arm. Two tender points are present on pressure over the precordia. Dysmenorrhea and other symptoms are present which point to uterine trouble.

Diagnosis.—Retroversion of the portio vaginalis with the body of the uterus pushed slightly to the left. An old exudation is felt on the right side. Chronic endometritis. Patient cured.

CASE VII.—Aged 27; married nine years; four children; five miscarriages; last child two years ago. Present illness since that time. Complains of much dyspnea; bloated abdomen; when the abdomen begins to “swell,” intense cardiac pain and palpitation begin, so severe that she is unable to move; full inspirations increase the pain over the heart. Symptoms which point to disease of the sexual organs are present also, such as constipation, frequent micturition, and constant leucorrhea, but not the slightest pain either during or before menstruation. Neither are the heart symptoms of greater severity at these periods. Antelexion and procidentia, first degree, diagnosticated. Patient cured of all morbid symptoms; she consults me now about once per month, and sometimes only once in two months, to have a Gehrung pessary removed and readjusted. One time I left the supporter out, but she returned in two weeks again complaining of her old symptoms.

CASE VIII.—Pt. 28 years, married eight years; three children. Hysteria; cardiac palpitation and severe precordial pain; pulse irregular, sometimes intermittent; menorrhagia.

Diagnosis.—Laceration of perineum and cervix; antelexion with version and second degree of procidentia. Prolapse of right tube and ovary. In the region of the left ovary much tenderness; it cannot be mapped out on account of the severe pain which is caused by examination in this site. Much improvement by treatment, so that the patient is quite comfortable.

CASE IX.—The patient came under my observation in the clinic on the 1st of April. 31 years old; married ten years; four children; no miscarriage; the last child two years ago. She says that she had been feeling perfectly well up to five weeks ago, when she lifted a heavy wash-tub, when suddenly she felt abdominal pains, and, a few hours later, lumbar pains; she rapidly grew weaker; loss of appetite. For the past three weeks severe palpitation, pain over the heart, and oppressed feeling throughout the chest, with slight dyspnea. The cardialgia at times is very severe, the pain radiating down the left shoulder and arm, formication being felt in the extremity; pulse 130.

Three painful spots over the precordial region, viz.: second sternocostal articulation; fourth intercostal space, one inch from the sternum; and in the sixth intercostal space, on a line with the nipple. The uterus was found retroverted and flexed; the left ovary and tube prolapsed. The uterus was readily replaced, and tampons introduced to retain the organ.

I saw her the following day, when she said that she already felt some relief, especially from the thoracic symptoms.

Dr. Theilhaber's¹ case, on account of its great interest, I will briefly review. A laboring woman, 46 years old, shortly after the cessation of her monthly period, supposed herself to have "taken cold" while picking hops. A few days later, while doing some work, she was afflicted with a severe attack of cardiac palpitation, on account of which she consulted the author. Other morbid symptoms, such as dyspnea, vertigo, etc., accompanied the palpitation; the pulse rate by the least exertion was increased to 240 beats per minute; medication had very little or no effect; rest in the recumbent position alone afforded relief. She remained an invalid for several years, until after the menopause had taken place, and yet no relief of her palpitation. Shortly after the establishment of the menopause, the author insisted on a vaginal examination. He found the uterus retroflexed, enlarged, and the portio vaginalis tumid. Reduction of the displacement quickly cured the patient. Comment on this case is unnecessary.

Resumé.—There are a large number of patients afflicted with uterine or ovarian disorders who also suffer from nervous heart affections, and some cases who give only a history of the latter, in whom this will be found dependent on the former disorder, as is well illustrated by example No. III. The symptoms of the affection do not differ from the cardiac neurosis dependent on other causes.

It is necessary to make a careful examination, in justice to the patient, of the reproductive organs, if no other *positive* cause can be found to account for the neurosis.

That grave organic lesions may be suspected by only a superficial examination, when the condition is but a nervous imitation of disease, is well illustrated by numerous citations of cases. Flint's² case is a good example. When the neurosis is due to ovarian lesion, it is usually the left ovary which produces the mischief, as has already been pointed out by Dr. J. Milner Fothergill, and coincides with my own observations.

In conclusion, I would say that the cases cited were such in which the reflex cardiac neurosis caused the greatest inconvenience to the patients, when they presented themselves for treatment, and that an argument that treatment for the neurosis directed to other organs than the pelvic, would in these cases not hold good, as they were thoroughly tested previously; also, that the observations are not confined to a few patients,

¹ "Tachycardie durch Lageveränderung des Uterus." *Münchener Medicinische Wochenschrift*, vol. xxxi., p. 465.

² Pepper's "System of Med.," vol. iii., p. 750.

but extend over a series of nearly two thousand patients taken as they came, after beginning my own investigation, and it is from this list that I take my per centum.

A CASE OF ANENCEPHALUS.

BY

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I do not report this case on account of its being anything new—for it is not—nor yet to attempt to throw any light upon the subject, but merely because it is a very rare freak of nature, and one of the most puzzling cases that the obstetrician is ever called upon to diagnose. Indeed I doubt whether, in a great majority of such cases of fetal deformities, a correct diagnosis is made until the fetus is expelled.

Not that the ignorance of the practitioner as to the condition of affairs will make any difference in the termination of the case—for the labor generally proceeds to a rapid and favorable end—but it is natural for us to feel an unnecessary degree of solicitude and alarm if we are unable to distinguish this condition from the more dangerous one which it so closely simulates.

Mrs. A., æt. 25, primipara, delicate, was taken in labor on the night of the 17th of November, 1885. The first indication of labor was the passage of an unusual amount of liquor amnii. I saw her two hours after the rupture of the membranes, made an examination immediately, found the cervix dilated to the size of a silver half-dollar, and a soft flabby mass presenting itself.

The mass felt exactly like placental tissue, but following it up as far as I could reach by the introduction of my index and middle fingers, I could not feel any connection between it and the uterus; nor was there any hemorrhage or history of hemorrhage. As labor was progressing satisfactorily—as far as the mother was concerned—I waited an hour, made the second examination, and found the entire vagina filled by this peculiar mass. Violent contractions now came on, and every pain caused a marked bulging of the tumor.

I now passed my index and middle fingers beyond the tumor,

between the pains, and distinctly felt hard bony ridges which did not resemble any part of the natural fetus. A few more pains sufficed to expell this soft irregular tumor, much larger than a fetal head at term, followed closely by a rudimentary skull (to which tumor was attached, the vault of cranium being absent) and a perfectly formed body. The child was dead ; face small and eyes prominent. I incised tumor attached to base of skull, and about a tablespoonful of brain matter, mixed with bloody fluid, escaped.

The tumor resembled placental tissue in appearance as much as it did in feeling. Dr. J. L. Smith, in his treatise on diseases of infancy and childhood, while speaking of the subject says : "The base of the cranium is often occupied by a vascular tumor, not large, but of different size in different cases, and continuous below with the spinal pia mater.

"This vascular tumor is the representative of the cranial pia mater, and its smooth surface is the analogue of the arachnoid.

"The dura mater and the scalp being absent, the exposed mass resembles very much in appearance, as it does in structure, the placenta, and the sensation which it imparts to the finger pressed upon it is very similar. Sometimes small portions of cerebral matter are found among the vessels of this tumor, but they are so disconnected or isolated that they do not perform in any way the functions of the brain. Occasionally the vascular tumor and the medulla or upper portion of the spine is exposed or it terminates in a little papilla at the back of neck."

Differential Diagnosis.—From placenta previa by absence of attachment between tumor and uterus ; by absence of hemorrhage and history of hemorrhage ; by the detection of the bony ridges of the base of skull and the attachment of tumor thereto. From amniotic sac by rupture of membranes ; by thick flabby feel.

Prognosis.—If the medulla oblongata is absent, still-birth is the result ; if present, the child may live a few days and die with convulsions.

THE NECESSITY OF PREPARATORY TREATMENT FOR
CHILD-BED.¹

BY

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I wish in this paper to emphasize the necessity for an intimate acquaintance of the physician with the condition of the pregnant woman, to suggest a way to obtain this information, and, finally, to present some of the evils to be looked out for in advance of labor.

The object of the whole is to formulate a scheme of prophylaxis, not against labor, but against the many complications which may arise during it and follow after it.

It is certainly of very common occurrence in private practice for the physician not to see his case until labor begins. Or he may have attended the woman in several previous easy confinements; but that is no guarantee that the next parturition will not be a complicated one.

The tendency among multiparæ is to struggle along to term, to attribute their bad feelings to their condition, and, perhaps having experienced something similar before, to patiently await relief in child-birth. This comes, and with it, uremic convulsions, the woman having failed to notice the prodromal symptoms. Or an unusually large abdomen is considered as a case of twins or hydramnios. The doctor is much puzzled, never suspecting an ovarian tumor grown since his last attendance.

On the other hand, the primipara, through modesty, or because she has no regular family physician in whom to confide, keeps her condition as long as possible a secret. She has perhaps treated herself to the best of her knowledge. If so, it is almost certain to have been irrational, rather through an exaggerated fear of what must not be done than overdoing what might safely have been done. She enters upon her first labor in an anemic state. Her veins are engorged with asphyxiated blood, and her whole system is loaded with fetal detritus—a condition

¹ Read before the Washington Obstetrical and Gynecological Society, Feb. 19th, 1886.

wholly inadequate to obtain the rapid and complete involution of the uterus so necessary for her future comfort.

The child also is endangered, and runs fully as much risk as its mother. Many children have been sacrificed by operative procedures consequent upon the necessity of rapid delivery in eclampsia. Many first children have been weak and sickly their whole lives long because their mothers failed to consult a physician before their birth.

The morbid processes induced by conception are numerous, and what might be termed a "normal pregnancy" is of no common occurrence. No other physiological event in the life-cycle of human beings is accompanied by so many dangers as the fructification of the ovum in the female.

Almost from the very day that this occurs, through nine months to the expulsion of the fully-formed child, and beyond that, is the woman liable to a series of disasters which may end in her permanent deformity, or even death.

Certainly the evil chances of the ante-partum period should claim the close attention of the practitioner. Not only, as we have said, are they dangerous per se, but they greatly modify the prognosis of the approaching labor and puerperal state.

Dr. Samuel C. Busey, our respected ex-president, in his address of welcome to the American Gynecological Society, some months ago in session in this city, pointed out the importance of the "preservation of the health of the woman during those periods of her life history intervening between conception and the commencement of labor." Other Fellows of the society agreed with him.

Later, in an address to this Society, he spoke with a like text, and I am sure we all indorsed his views.

While it is not to be expected that the practitioner will be able in every case to get information in advance of labor, it is more often possible than not. The custom of engaging the obstetrician some time ahead is a good one, and should be encouraged. It gives him the opportunity desired.

We would advocate, therefore, a system wherein the accoucheur began his attendance at least as early as the ninth calendar month of pregnancy, when that is possible, or as soon after that as engaged. Let him make, say, one visit a week in the former case, and in the latter case as often as necessary to gain the information sought.

That there may be a definite rule to govern, we suggest that he inquire into :

- I. The general health. Inherited and acquired diseases.
- II. The diseases due to pregnancy.
- III. The shape of the pelvis.
- IV. The abdomen and vagina. The position, condition, and number of fetuses.

During the four weeks before labor, many of the diseases inherited, acquired, or due to pregnancy show themselves in their most aggravated form. In many instances they reach their acme earlier in gestation than this. Then, as a rule, they require and get the immediate care of the doctor.

Our system, therefore, *if we limit ourselves to a month's attendance*, applies more especially to complications which appear late and to normal pregnancies. But at the present day, what are called "normal pregnancies" give rise to anxiety enough, and in nearly every case something can be altered for the future good of the two individuals concerned. Moreover, a "normal pregnancy" is not necessarily followed by a normal expulsion, for many forms of dystocia arise at term which give no subjective signs before.

Much can be done in a month in building up the general health and alleviating concurrent affections. For this purpose, one visit a week will usually be sufficient. Let one of the first calls be, by appointment, an evening call, and let the patient be in bed. If now the attendant make a careful measurement of the pelvis and examination of the vagina and abdomen, we are certain that much advantage will accrue to himself and the mother when labor begins.

I am aware that there are already many men who practise this system and that in innumerable instances the family physician *does* see and take care of the pregnant woman from conception to term. I think, however, that it is not a very general custom and that still less frequently are examinations of the abdomen, pelvis, and vagina made in advance of labor. Having pursued such a course once, reference to memory or notes will supply many details of use in succeeding labors, and the same accoucheur, too, is very likely to be called in when these happen. The woman is cognizant of the fact that the doctor "knows her," that he has taken every precaution for her good, and she will the more readily recall him.

Undoubtedly there are objections. It entails extra labor on the attendant and expense on his patient. The first item will assuredly not count against it. The second, together with ignorance and negligence on the mother's part, will be its chief opponents. But, make it the custom and ignorance cannot be pleaded. Educate womankind up to believe that it is for her own good, and expense will not stand in the way.

It does not seem necessary to speak on what might be called the "general hygiene" of pregnancy. There is no need to tell what should be used in anemia or constipation, or why the alimentary canal should be kept as far as possible in a normal condition.

It is not to be understood that this "general hygiene" is to be omitted or shortened in the scheme of prophylaxis. Far from it. But it seems that most men pursue such a half-way course when opportunity offers.

Nor is it the province of this paper to do more than mention the importance of the doctor's recognizing the existence of inherited or acquired diseases. Syphilis, tuberculosis, heart disease, rickets, epilepsy, chorea, and insanity are often only obscurely visible until fetation brings them out. They play an integral part in the prognosis of child-bed and claim active treatment.

On the other hand, the acute zymotic¹ diseases are especially liable to attack the pregnant woman. Their prophylaxis is plainly evident; namely, remove the woman as far as possible from the chance of their contagion.

I may be pardoned here a slight digression which bears, nevertheless, on the subject. I will ask a question without attempting an answer. What right has a doctor to advise the possessor of some constitutional affliction against marriage at all? It is a difficult problem to solve. The circumstances in each case differ so that no rules of practice can be laid down.

One thing there is that the profession may and ought to advise against, and that is, too early marriage. The observations of such men as Emmet,² Busey,³ Chadwick,³ and Reynolds³ go to prove that precocious puberty is on the increase among girls of American stock. But puberty and nubility are not

¹ Barnes, "Op. and Clin. Obst."

² "Diseases of Women."

³ Trans. of Am. Gyn. Soc. AM. JOUR. OF OBS., Oct., '85.

one and the same thing, nor are they always simultaneous. After their teens is time enough for women to marry.

Nor can we refrain from referring to some of the etiological factors of female diseases which date even earlier than puberty, as : "neglect of out-door exercise and physical development, overwork of brain and excessive development of nervous system, improprieties of dress," mentioned by Thomas in the second chapter of his book on "Diseases of Women."

These excesses should be corrected by the doctor before they have produced their results.

Let us suppose that our new patient has arrived at the ninth calendar month of her pregnancy and that she has heretofore had no untoward symptoms for which she has had to call in the doctor. Suppose, also, that she engages her attendant and he goes at once to see her. Most men, we believe, would recognize and treat anemia, constipation, etc., if they existed; but the essential points to be learned by vaginal and abdominal palpation would very likely be overlooked. Equally unlikely would any treatment against *possible* complications be undertaken.

A small amount of albumin is found in the urine. This occurs frequently and gives rise to no uneasiness. There is, however, some connection between albuminuria and eclampsia, whereas eclampsia occurs only once in five hundred¹ gravidæ and albumin is found in the urine of one in twenty-five,² convulsions occur once in twenty (20) women eliminating this morbid product. Albumin has been noticed before attacks of cerebral and pulmonary apoplexy, acute mania, paraplegia, and affections of the eye and ear; while the hyperemia of the kidney constituting "puerperal nephritis," of which albuminuria is significant, will degenerate into serious disease unless we stop it.

Further, Barnes³ states that, "as a general proposition, convulsions and albuminuria increase the disposition to and severity of the diseases to which the puerpera is liable." It does not seem to me, therefore, that continuous albumin in the urine *should* be viewed with tranquillity, it being often the first prodrome of one of the most fatal diseases that mother and child are exposed to.

The preparation of the perineum for labor usually receives

¹ Lusk, "Obs.," p. 526.

² Fordyce Barker in AM. JOUR. OF OBST., July, '78.

³ "Obst. (Med. and Surg.)," p. 287.

but little if any attention. Yet there have been from time to time various methods of treatment and drugs brought forward as having a relaxing effect upon it. This is surely a much to be desired end, and experimentation should not cease until something has been found to answer the purpose.

In the examination of the abdomen, the first thing to be decided is whether pregnancy exists at all. Rarely we may save a woman a month of suffering by assuring her that she has no labor to expect. An extrauterine pregnancy might possibly have gone so far without discovery. The presence of tumors, of injury from previous labors, of malpositions of uterus, of multiple pregnancy, and the size, condition, and position of the fetus will be discovered.

By the vagina we find injuries, from previous labors or diseases, which may need repairing. Tumors and malformations may be present.

The measurement of the pelvis is of great importance. Twelve deviations from the normal are recognized.¹ In all of these, the mechanism of labor is modified to a greater or less extent according to the degree of deformity.

I do not think that there should be any discrimination in favor of either the multipara or the primipara in our practice. Both should receive equal care, except, of course, the pelvic measurements need not be taken twice in a known case.

This branch of medicine clearly presents a wide field for the practice of prophylaxis, and while it is generally conceded that, though child-bed mortality is less than in former years, it is still too large, we would urge that one of the most potent ways of reducing the rate is by the proper preparatory treatment for the tremendous strain of labor.

¹ King's "Manual of Obs."

REPORT OF TWO CASES OF OCCLUSION OF THE VAGINA;
ONE FROM TRAUMATISM, THE OTHER CONGENITAL.

BY

E. CROSS,

Little Rock, Ark.

I PROPOSE to report these two cases very briefly, giving only such points as are of interest, without going into details.

CASE I.—Mary L., a bright mulatto, three years previous to coming under my care had been delivered of twins. She informed me that instruments were used, and that she was in labor three or four days. The children were still-born. She made a tardy recovery, though she did not know she was injured until an attempted approach of her husband revealed the fact that the vagina was closed.

I found her general health impaired; she was exceeding nervous; her bowels were tympanitic, and she suffered at each monthly period to such an extent as to require the free use of opiates, besides being confined to her bed from six to ten days. This suffering had during the last few months become almost unbearable, and rendered her unfit for any work. An examination revealed a complete occlusion of the mouth of the vagina by dense cicatricial tissue. To what extent this occluding tissue extended it was impossible to determine, as it was so firm as not to yield to pressure. The diagnosis formed from the history and symptoms was that of occlusion of vagina with retained menstrual fluid for over two years, as since the birth of the twins there had been no appearance of menstruation. With the assistance of Dr. Watkins, she being placed under an anesthetic, the tissues closing the vagina were divided, proving to be about one-half inch in thickness, very firm, and closely pressed together. Quite a quantity of dark fluid was at once released; the parts were washed out with an antiseptic solution; a tampon or dilator introduced into the vaginal opening, and in a few weeks the patient was discharged. After this I lost sight of her until a few weeks since, when she called at my office to say she was again pregnant, and to engage my services. She expressed great fear that she might again suffer as at the first confinement.

CASE II.—Mrs. V., aged 17 years, was sent to our Infirmary from Texas. She was a well-developed blonde, had been married four months; said that until within six months of her marriage she had enjoyed uninterrupted health, when she began to suffer once a month, though she had never had any external appearance of menstruation. After her marriage it was discovered that there was no entrance to the vagina. She had been examined by

several physicians, some telling her husband that she was of "no sex," others that there was "absence of the womb," and that nothing could be done for her. Considering herself incurable, and much depressed, she came under my care. A most careful examination with a sound in the bladder and finger in the rectum revealed the uterus in normal position and of normal size. She was assured that it *was* possible to relieve her of this congenital occlusion of the vagina, the dangers of the operation being plainly stated to her, as well as the possibility of failure, she still urged it, willing to take all the chances "to be made a woman," as she said. Assisted by Drs. Watkins and Scott, the operation was undertaken after placing her fully under an anesthetic, the external organs of generation appearing perfectly normal; a deep incision with a scalpel was made at the ostium vaginæ, then slowly, with finger-nail and blunt instrument, the parts were torn and separated until the os uteri was revealed; the hemorrhage was considerable, being controlled by the use of compression and hot sponges. A glass dilator was placed in the new-made vaginal tract, and the patient put to bed, having been given a full opiate. The dilator was ordered to be removed, and the parts syringed twice a day with an antiseptic wash of the temperature of the body. Through the negligence of the nurse, who yielded to the entreaties of the patient, the dilator failed to be introduced one night, and so great was the contraction that a second operation was required, and a large glass tube introduced, which was worn night and day for five weeks. Then the patient left for Texas with the dilator in place (she being taught to remove and replace it), with orders that it should be worn for the next six months.

At no time after this operation did the temperature exceed 102° , even then a rise followed the rigor which was induced by the shock.

It is now twelve months since the operation, and I learn by letter that the patient is in good health, menstruating regularly, and is in every way a satisfactory wife.

The operation for congenital absence of vagina is one which gives the gynecologist as much, if not more trouble and uneasiness than any that falls under his care. As the tissues are divided in making the new tract, there are no landmarks to guide him; carefully he must feel his way without compass or chart, and where a slip of the knife or a tear of the parts may at any time cause serious trouble.

A SUCCESSFUL CASE OF HYSTERECTOMY FOR AN ENORMOUS FIBROID.

BY

A. B. ATHERTON, M.D.,

Toronto, Can.

MRS. B., æt. 35. First seen by me in December, 1884, when I obtained the following history:

Catamenia began at 13, always regular, but rather free from the first. Was married at 25. For some months previous to that event the flow used to last from ten to fifteen days, and was accompanied with clots, sometimes as large as an egg. After marriage an increased loss took place, and a hard lump, which had been noticed previously in the hypogastrium, became considerably enlarged. The late Dr. Hodder was then consulted, and from what he said it was inferred that he considered her pregnant. From this time until August, 1883, menorrhagia continued, lasting often from two to three weeks at a time. At the latter date, the whole of the left lower limb began to swell, and in a day or two she was obliged to take to her bed. After two or three weeks, swelling commenced to subside, and in about two months the leg had returned to nearly its normal size. During this attack, she was at one time so ill that the attending physician gave up all hope of her recovery.

For a period of three months after this attack, the menses were entirely absent, and with the exception of a flow which lasted four weeks, during June, 1884, they have been quite scanty up to the present time.

The abdominal enlargement has gradually increased from the first, until now she measures fifty-one inches around the umbilicus. At various times since 1874 she has consulted medical men of eminence, but no one advised the removal of the tumor. Five years ago she was tapped by one of these gentlemen in two different places, but only blood was got.

At the present time, the edematous abdominal walls reach down to her knees, the tumor having a tendency apparently to grow forwards and hang down over the thighs. The epigastric region is comparatively free from it. Both legs are considerably swollen, especially the left one. Patient looks pale and emaciated, and her face is drawn down, and expressive of suffering. The superficial abdominal veins are much enlarged. Tumor has a soft and almost fluctuating feel over its upper two-thirds, but below it seems more firm and hard.

Per vaginam, cervix uteri is found occupying a lower plane than usual. Vaginal walls are apparently swollen, so as not to

admit the fingers readily. A hard mass felt at roof of pelvis is evidently continuous with the tumor felt through abdomen. Sound passes eight inches, and in a posterior direction.

October 20th, 1885. Has continued much the same since last report. Catamenia have been scanty, and some months absent altogether. She has measured herself frequently and finds that she now varies from fifty-two to fifty-four inches in measurement about navel. She always swells up and becomes hard just before and during the first part of a period, and afterwards becomes soft and smaller again. After her sickness, is able to go about and do most of her own housework.

Fl. ext. of ergot has been taken off and on for the last few months, but without any good effect.

Both she and her friends have finally decided to have an attempt made to remove the tumor.

Urine examined and found free from albumin. Pulse 96; feeble. Slight systolic bruit over heart, which I hoped was due to her anemic condition.

Some cathartic pills were ordered to be taken at night preparatory to operating on the 22d inst. She has been obliged to use these pills almost every day for the last two or three years, so as to insure an easy stool, otherwise she would suffer a good deal from pain in right side of lower abdomen.

Oct. 22d. Bowels were moved twice yesterday, but patient thinking them not free enough, took another small dose last evening, which has acted two or three times this morning.

Vagina washed out thoroughly with carbolic acid and warm water, 1:80. Also skin of abdomen rubbed with a one-in-twenty solution of the same.

12 M. *Operation.*—Assisted by Drs. McPhedran, Carson, and Nattress. Chloroform and ether given alternately, but the former was used most of the time. Carbolic spray kept playing during nearly the whole of operation.

Incision, about two feet long, made through edematous abdominal wall. Surface of tumor found firmly adherent to peritoneum over an area a foot in diameter, and in a large part of this the tumor and wall of abdomen were thoroughly blended, so that it appeared as if the greatly enlarged epigastric arteries ran right into its surface, and undoubtedly must have served largely to nourish the growth. A large quantity of blood was necessarily lost during the separation of these adhesions, and a very large number of vessels required to be ligatured.

On raising forwards the upper part of tumor, we found the ovaries, one on either side, with a softish solid tumor of size of fist lying just to the outer side of the left one. A rubber tube was now wound two or three times around the neck of the whole mass, below the above-mentioned small tumor, and after the application of some ligatures to the vessels of the broad ligaments, the uterus, tumors and ovaries were cut away. Some bleeding occurred from below rubber ligature on left side, on account of its tearing the

tissues somewhat at this part, which was controlled by ligatures and pressure. A wedge-shaped piece of the uterine stump was now cut out, and the two raw sides were brought together by sutures, the parts having been previously dusted with iodoform. On loosening the rubber tube, such free hemorrhage occurred from the stump of cervix that I threw around it the wire of Koeberlé's clamp, and, after transfixing it with two pins, brought it outside of abdomen.

The abdominal toilet was now made, and the external wound sutured with silver wire and catgut, a glass drainage tube having been inserted about one and a half inches above the position of uterine stump. Carbolized sponge was placed over mouth of tube à la Keith, and after having dusted some more iodoform over stump, it was dressed with salicylic wool, while to the rest of wound some eucalyptus gauze was applied. A few strips of adhesive plaster were used to secure these in position, and over all, some cotton wool and a flannel bandage.

Vagina was now cleaned out with salicylic wool, a considerable quantity of bloody mucus being got away. Then a suppository containing ten grains of iodoform was introduced, and afterwards vagina filled with pledgets of salicylic wool inclosed in eucalyptic gauze and sprinkled with iodoform.

The whole operation lasted four and a half hours, during the latter part of which the patient's pulse became very weak. About one ounce of brandy was administered by the mouth, and a like quantity per rectum.

The mass removed weighed in tub sixty-seven pounds. A tub of same size and kind weighed ten pounds, and deducting this, together with three pounds for an old woollen shawl which covered tumor, we get fifty-four pounds as the net weight of the mass. But more than half a pailful of bloody fluid, which had oozed from tumor, had been emptied out of tub previous to its being weighed, and in order to arrive more exactly at the full weight of part as at first removed, we must add ten or eleven pounds for this fluid. This would bring it up to about sixty-five pounds.

On examination, the large tumor was found to lie in the anterior wall of the body of the uterus, the uterine canal running along for nine inches on its posterior part, close to the surface. On incising tumor, a cystic cavity was found near its centre, which contained about twenty ounces of turbid serum, and whose walls were lined with a soft, yellow, cheesy substance. In the neighborhood of this cyst were several small ones, containing each from half an ounce to an ounce of clear fluid, and having no cheesy material in their walls. The small tumor in left broad ligament was closely connected with the other, but not continuous with it. It proved to be a soft fibroid.

7:30 P.M. Patient has suffered a good deal of pain since operation, and four opiates have been administered per rectum, namely, a teaspoonful of laudanum and three suppositories, each of the

latter containing a half-grain of morphine and the same quantity of extract of belladonna. During the first hour or two pulse was very feeble, and beat at about 100 per minute, but it now is somewhat stronger and numbers 124. Temperature 101.2° F. Urine drawn; looks well.

October 23d to November 1st. Iodoform suppository (gr. x.) was placed in vagina daily until Nov. 1st. Pain controlled by morphine suppositories given *pro re natâ*. Urine drawn by catheter every six hours. Spray used each time wound was dressed, or sponge removed from drainage tube. Temperature reached 103.6° F. on evening of the 23d; on the 24th, highest point reached was 102.6° F., which was easily reduced by application of cloths wet in alcohol and water, partes æquales; 26th to November 1st, temperature remained at about 101° F. On the 23d, patient dozed a good part of the time, complained somewhat of pain and thirst, vomited a good deal, especially in the evening, when the pulse ran up to 156 and was very feeble; ordered bits of ice and 3 i. of brandy q. 15 m., also enema of 5 i. of brandy. Sponge over drainage tube changed, as it was saturated with bloody serum, a couple of ounces being also drawn from the tube with a syringe. Abdomen greatly distended, so that drainage tube was almost lost sight of. 24th, A.M. Very restless night; a good deal of vomiting; pulse 160. Brandy (5 i.) given per rectum. Temperature 102.6° F. Cold cloths applied to body and limbs reduced the temperature, and were very grateful to patient. 12:30 P.M. Tympanites less; large elastic catheter, passed into rectum and left there, gave exit to large amount of gas and some dirty fluid. A half-ounce of serous fluid removed from drainage tube. Gauze about stump and needles changed. Clamp tightened. Pulse 150. 11 P.M. Not much pain. Little or no vomiting; occasional eructations of wind. Also a considerable quantity passed per rectum via catheter. Pulse 140, temperature 100.4° F. Has taken a few tablespoonfuls of chicken-broth at her own request. To continue it in small quantities during night. Also to have a teaspoonful of brandy every half-hour. Two or three drachms of blood-tinged serum got out of tube, containing a few small flakes of lymph. 25th, 7 A.M. Restless night, but has had little pain. Took about a teacupful of broth, and has not vomited. Pulse 136, temperature 100° F. To take milk and lime-water again; a quarter-grain morphine suppository used. 2:30 P.M. Has dozed a good deal to-day. Is troubled somewhat with pains in abdomen, apparently due to flatulence. Pulse 126, temperature 101.2° F. An ounce or more of fluid of a yellowish tinge drawn from tube; clamp tightened. 11 P.M. Pretty comfortable. Pulse 112, temperature 100.4° F. Whole wound dressed. Abdomen is quite flaccid, the skin lying in folds and wrinkles. One or two drachms of serum got from tube. The latter seems to have been lifted out of pelvis by the previous distention of bowels, and cannot be easily replaced. I therefore left it where it was. Clamp and needles with stump have sunk pretty deeply down in a pit

above pubis. Not much discharge or soreness at this part. No pus has been seen anywhere as yet. Iodoform dusted on stump as usual. 26th, 11 A.M. Slept about three hours altogether last night. Little or no pain. No opiate. Took a cup of milk with about one-fourth of that quantity of lime-water. Pulse 108, temperature 101.4° F. Scarcely a teaspoonful of serum got from tube. 7 P.M. Had a rather loose, darkish-brown stool this afternoon, preceded by some pain in bowels. A morphine suppository subsequently used. Whole wound dressed. Drainage tube removed. Clamp tightened. Pulse 112, temperature 101.4°. 27th, 11 A.M. Pretty good night; slept about three hours, which she says is as much as she has done for some years. Bowels have moved twice this morning; stools were loose, and preceded by griping pains. Expresses herself as feeling the best she has since operation. Pulse 118, temperature 101.8°. 9:30 P.M. One-third gr. morphine suppository used this afternoon. No motion of bowels since morning. Pulse 118, temperature 101.8°. 28th, 7:30 A.M. A small loose dejection last night after visit. Had one-half grain morphine suppository at 1 A.M. Slept from 1:30 A.M. till 6. Abdomen continues to get flatter. Pulse 120, temperature 101.8°. 9:30 P.M. Another loose stool at 2 P.M. Bandage requires tightening on account of shrinkage of abdomen. Ordered one grain of quinine before eating, and some pepsin and bismuth after eating. To be taken three or four times in twenty-four hours. Also some flour gruel for food. 29th, 9:30 A.M. Slept pretty well after morphine suppository. Pulse 116, temperature 101.2°. Whole wound dressed. No pus anywhere. About a dozen sutures removed. 30th, 10 A.M. Bowels moved once. Morphine suppository. Slept well. Most of remaining stitches removed. Pulse 116, temperature 101°. Asks for and may have a little breast of chicken and a small baked potato.

Nov. 1st, 10 A.M. Four loose dejections in last twenty-four hours. P. 112, T. 100°. Complains of soreness of back from lying in bed; was lifted out on couch yesterday for a little while. 7th. Bowels about the same, notwithstanding careful dieting. Morphine suppository every fifteen hours. Passed urine without catheter for first time. Stump dressed for first time without spray. Is lifted out of bed on couch for an hour or so every day. Ordered tinct. gent. co. in place of quinine, and a mixture of catechu and opium p. r. n. 10th. Bowels about the same; patient doing well, however; appetite good. P.M. Temp. 101°. Anemia is marked, and cardiac bruit louder than before operation. Ordered pill of ferri carb., nux vomica, and quinine in place of tinct. gent. 13th. Has been restless and slept badly since last note; starts in sleep. Average P.M. temp. 101°. Pins removed on 12th, having caused pretty deep ulceration from pressure. Bowels as before. Has complained for two days of pain in right inguinal region, and soreness has existed on each side of lower wound leading outwards towards ant. sup. spin. proc. of ilium. A hard swelling is to-day

felt on right side in this region, about three and a half inches long and two and a half broad, not very tender on pressure. No general swelling of abdomen. Ordered iron and nux vomica stopped, quinine t. i. d.; sulphate of copper gr. $\frac{1}{4}$ p. r. n. for bowels. Patient to keep quiet in bed. 16th. Rested fairly well for last two nights. Bowels continue loose. P. 116, T. 100.6°. Hard swelling on right side continues much the same. Skin freely movable over it and of natural color. Clamp cut away. 17th, 7 P.M. Free perspiration this evening, and temperature has run up to 103°. For last few days evening temperature has varied from 101.5° to 102°. Some slight edema of skin about lower end of wound. Also the induration has seemed to be more marked to-day than usual. 18th, 7 A.M. A free discharge of foul-smelling pus took place this morning from the right border of cicatrix, just about where glass drainage tube formerly lay. Perhaps four ounces of pus has come away altogether. No bulging of cicatrix or skin was noticed here last evening. Probe enters two and a half to three inches almost directly backwards, with a slight inclination upwards. Rubber tube put in. P. 108°, T. 100.5°. 8:30 P.M. Feels better, but has complained of weakness to-day. P. 102, T. 99.6°. 20th. Bowels continue to move about three times in twenty-four hours. Slept fairly after one-quarter-grain morphine suppository. Sweats a good deal about head, neck, and shoulders when dozing. Takes three pints of milk, a slice or two of bread or toast, and three or four ounces of brandy per diem. Only two or three drachms of pus discharged since yesterday morning, which has no bad odor now. P. 100, T. 99°. 26th. Doing well. Stools more firm. Has sat up in bed every day since last report. Not much discharge from sinus, which is getting shorter. P. 90, T. normal. Induration on right side about all gone. 30th. With the exception of some neuralgia in head and neck, has been pretty well. Sat up yesterday in chair for an hour or more. P. 92, T. 99°.

Dec. 3d. Bowels much better. Patient weighed eighty-eight pounds yesterday. P. 90, T. 98.5°. 8th. Patient can now bear her weight on feet. Some general swelling of body noticed for a few days, most evident in face and feet. The systolic bruit which was heard over the precordia previous to the operation has been more pronounced of late. No enlargement of heart. Pulse 90; continues feeble, but generally regular. Temp. normal. Carb. of iron, nux vomica, and digitalis are being given. Also patient has been cautioned against making much exertion. 14th. Bowels regular. Appetite good. P. 88 while in bed; about 100 when up. T. normal. Slight general edema persists. 18th. Doing well. Weighs ninety-seven pounds. 24th. Drainage tube removed. Patient was carried down-stairs yesterday, where she spent the day. 30th. Has been out for a short drive. P. 84 when lying down. T. normal. Edema about the same.

Jan. 5th, 1886. Is able to go up and down stairs without help. Sinus healed. Weighs one hundred and six pounds. Has had

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some cystitis ever since use of catheter. Takes some spirits of nitrous ether every day with relief. 11th. Was taken from her father's, where operation was done, to her own home to-day. Edema is much the same, though systolic bruit is less distinct. She is still pale-looking, and pulse is weak and easily quickened by exertion. 26th. Has been doing most of her own work of late. She has not to go up and down stairs, however, and is careful not to over-exert herself in lifting or otherwise. Legs are rather more swollen perhaps, but edema is no greater elsewhere. Little or no cardiac bruit to be heard now. Pulse 96, while up and about.

Feb. 2d. Weighs one hundred and sixteen pounds, being a gain of twenty-eight pounds in a little more than eight weeks.

March 29th. Doing well. Has suffered from a bad cold lately. Takes ten drops of tinct. of digitalis three times a day one week, and a pill of iron, nux vomica, and quinine the next. Goes out frequently for short walks. Edema is somewhat less than it has been. Patient feels well, and looks less pale. Weighs one hundred and twenty pounds.

Remarks.—The enormous size of the tumor, as well as the successful result in this case, make it worthy of record, and should encourage at least an attempt to relieve even the most desperate of such cases. Judging from the condition of the tumor, it could not have been long before the softened walls of the largest cyst in it would have broken down into pus, and then the end would have soon come. Besides, some intercurrent disease, such as the phlebitis which she had two years ago, might at any time have caused her death. There can be no doubt, we think, therefore, that under the circumstances the operation was a perfectly justifiable one.

The diarrhea, as also perhaps the mural abscess, and possibly the short attack of peritonitis, was doubtless due to septicemia. How the latter occurred may be open to question. It will be observed that every antiseptic precaution was taken, including the disinfection of the vagina, in order to prevent the entrance of any bacteria to the wound. I think that it is very important that the problem of shutting out diseased germs from access to the raw surfaces via the cervical canal should be satisfactorily solved so that we may get rid of one of the chief elements which make the operation of hysterectomy so much more fatal than ovariectomy. In a paper read last year before the Canadian Medical Association, I suggested that this purpose might be accomplished in cases where there was an absence of uterine discharge every month for a period of at least ten or

fifteen days, by doing a preliminary operation for closure of the cervix. This procedure would be applicable to quite a large proportion of cases, and I see no good reason why it should not practically work well. In the instance reported above, I did not, however, put it to the test because I feared in her very feeble condition to subject the patient to an additional surgical procedure which would necessitate a confinement to bed for several days, especially as the size and weight of the tumor rendered rest in the recumbent position very irksome to her at all times, and obliged her to change her position frequently during the night in order to lie at all comfortably. I therefore chose to adopt the method of disinfecting the vaginal tract as the best alternative that presented itself.

A NEW CURETTE.

BY

H. W. LONGYEAR, M.D.,

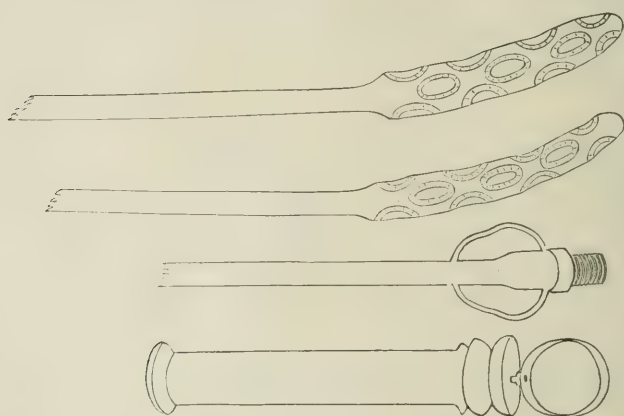
Gynecologist to Harper Hospital, Detroit, Mich.

THE accompanying drawing represents a curette and intra-uterine syringe which I have recently designed and successfully used for several weeks. As the drawing will show, I have two sizes fitted to one syringe by a screw-joint. The canula is made of pure silver, and the syringe of hard-rubber. The oval openings in the uterine end of the instrument are made with bevelled edges, the bevel sloping from without inward, thus forming a cutting edge encircling each opening, and parallel with the inner surface of the instrument.

My manner of using it is to fill the syringe and canula with a one-per-cent solution of sulphate of copper, pass the instrument into the cavity of the uterus, inject a few drops of the fluid, then withdraw the piston of the syringe slightly, and move the end of the instrument back and forth in the uterus. I repeat this manœuvre several times, until the fluid in the syringe is exhausted, when the piston is withdrawn again slightly, and the instrument removed. If granulations be present in the cervical canal or uterine cavity, they will be drawn through the open-

ings and cut off, and can be washed out from the inside of the instrument on its removal. The copper solution acts as a styptic to prevent undue hemorrhage, beside being a tonic application to the parts. If much hemorrhage follows the withdrawal of the instrument, an injection of the copper solution will generally suffice to stop it.

Care should be used in withdrawing the piston, and the after-intrauterine manipulation, as healthy tissue can be drawn in and lacerated if the instrument be carelessly used. If healthy tissue should be drawn in in this manner, the instrument, by slight traction, will be found to be held quite fast, when the



piston should be pushed in gradually, until the grasp is felt to relax.

The advantages I claim for this instrument over the ordinary curette are: that it can be used with little or no pain to the patient, thus obviating the occasional necessity of giving an anesthetic, and lessening the danger of inflammatory action or nervous shock, which sometimes have, in the past, followed curetting of the uterine cavity; that it does its work in much less time and more thoroughly; and is, to a certain extent, a dilator, and can be passed through an os that at first may feel quite rigid and impervious.

CASE OF FIBROID POLYPUS OF THE UTERUS, WITH REMARKS
ON SOME POINTS IN ETIOLOGY.¹

BY

THADDEUS A. REAMY, M.D.,
Cincinnati.

MRS. M., of Indiana, age 45, came to consult me at the instance of her family physician, Dr. Fleming, on the 3d of March, 1886, on account of a troublesome, profuse, muco-serous discharge from the vagina which had existed for five years. She was a marked brunette, five feet four inches in height, weighing two hundred and eleven pounds, and, as may be imagined, was exceedingly fat. She was married at the age of 18 and is the mother of four living children, the youngest age 15; one abortion. There were no abnormal phenomena connected with the birth of the last child, and menstruation returned at the usual time and remained regular and healthy until five years ago. At that time her menses began to occur a few days earlier than usual, and while not losing more menstrual blood than normal, the intermenstrual periods were characterized by a profuse discharge of a watery fluid from the vagina. Three years ago, suffering for some days from bearing down which she compared to parturient pains, a body which she supposed was the uterus presented at the vulva, was pushed up by her at once, and never appeared so low down again. For two years nothing abnormal was noted save a sense of unusual fulness in the vagina and the discharge, which, however, was increasing in quantity. The menses were about the same in character as before. One year ago, she had rather profuse metrorrhagia on alternate days for two or three weeks. At this time she was examined per vaginam by her physician, a very competent man, and told that some sort of tumor was present, but as the hemorrhage ceased, nothing was done further until she came to consult me. By vaginal examination an ovoid body, considerably larger than the normal uterus, was found occupying the upper part of the vagina and entirely filling it; the lower extremity of the body being less than two inches from the vulvar outlet. Its surface was smooth to the touch, though somewhat irregular in outline, but it was so long that the examining finger was only able to detect that the upper part was smaller than the lower, while the point of attachment or upper continuation could not be reached.

Further examination was deferred, and the patient sent to my private hospital for more complete examination and treatment.

¹ Read before the Cincinnati Obstetrical Society, April 8th, 1886.

Diagnosis.—Either a fibroid polypus which had been extruded and remained attached to some part of the uterus, or a complete inverted uterus, most probably the former. On March 7th, she was placed upon the operating table in the lithotomy position, for the purpose of making accurate diagnosis, and an operation if necessary. Owing to the enormous amount of fat in the abdominal wall it was impossible to palpate the uterus above the pubes, and for the same reason combined with the large size of the tumor, conjoined manipulation per vaginam and abdomen gave no information as to the whereabouts of the uterus. A finger in the rectum could not be introduced far enough to make out any constriction in the tumor, or the presence of the uterus above. Digital examination of the vagina could not differentiate the uterus, for the cervix was beyond the field of the examining finger. (It was subsequently ascertained that the uterus was held by the tumor high in the pelvis.) Attempts to pass the uterine sound anterior to the tumor and to its left completely failed, but to the right and posterior to the tumor the sound was made to enter about two inches further than in any other quarter. I was now fully satisfied that I was dealing with a fibrous polypus, for the following reasons:

1. The uterine sound was made to enter two inches above what seemed, upon digital exploration, to be a constriction of the tumor.

2. The mass was entirely insensitive to the touch.

3. The absence, in the history of the case, of either anything abnormal connected with the last parturition, or any extensive or continued hemorrhage, which is a usual concomitant of inversion of the uterus.

4. The persistent watery discharge which is often noted in extruded polypi, though this sign may accompany a case of inversion.

5. The absence of the clinical symptoms of pain, bearing-down sensations, loss of health, or the nervous manifestations usually marked in cases of inversion.

The tumor, as noted above, was smooth on its surface, but its outline was not regular, for I could make out some slight protuberances, and general, though not marked, unevenness in its contour.

7. The tumor, when grasped between the fingers in the vagina, *could be easily rotated on its vertical axis, which could not occur to any marked extent in an inverted uterus.* This was to me the most important diagnostic sign in this case, and as I have never seen it mentioned in the differentiation of these puzzling cases, I desire to call your especial attention to it. Emmet has called attention to this method of determining the size of the pedicle.

Any additional points of diagnosis on this subject must be particularly valuable, for the fatal mistake of amputating an inverted uterus for an intrauterine polypus has been made several times. I confess myself to having had my *écraseur* chain around

an inverted uterus at one time, and was only saved from a fatal error by the breaking of the chain.¹ I make this confession with less diffidence when I recall that so able and so careful a man as Emmet confesses to have stood upon the verge of the same disaster.²

It can be easily conceived how impossible rotation of an inverted uterus would be, when we remember that the organ is not only stiffened by its muscular walls, but there are in addition to this the thick, strong, fibrous guy ropes, furnished by the broad ligaments which are more than ever upon the stretch from the tension produced by the malposition. Again, the rotation must depend upon the size of attachment to the fixed structures above, which in the inverted uterus is the cervix itself, normally an inch and a half in diameter, but when it contains the tense, broad ligaments, and is itself thickened by the hyperplasia incident to the irritation of chronic inversion, it is much larger. Thus it may be seen how difficult it would be, with the uterine body between the two fingers, to twist it upon the axis of its thick and tense attachment.

In the case of a fibroid polypus, however, when the pedicle of attachment (in this case only three-quarters of an inch in diameter) is not only much smaller in most cases, but always less firm in texture, rotation could not only be performed with greater ease, but also its range would be greatly increased.

In this case, with a little effort, the tumor could be rotated one-fourth way round, or through an angle of ninety degrees.

The diagnosis was therefore absolute.

I seized the tumor with a volsella, and drew it down as far as possible with such moderate traction as I deemed it expedient to use, since I could not yet tell at what point of the uterus the pedicle was attached. The chain of the écraseur was now slipped around the tumor and pushed up as far as possible, and then slowly tightened to division of the pedicle. During the tightening of the chain the patient, not being anæsthetized, complained of no pain. The tumor was extracted from the vagina by the volsella. It measured eleven and one-fourth inches in its longitudinal circumference, and nine and one-half inches in its transverse circumference. Some hemorrhage followed, but it was promptly checked by copious vaginal irrigation with hot water. The cervix was then grasped with a volsella and drawn down, when its walls were found to be of about normal thickness, the os externum greatly dilated, the os internum pretty well contracted. The stump of the tumor was attached on the left of the anterior wall, just within the os internum, the pedicle was not more than three-fourths of an inch in diameter.

There are some points in this case which are worthy at least a brief study. The tumor was in perfect nutrition, as evinced

¹ Trans. Am. Gyn. Soc., vol. vi., p. 276.

² "Gynecology," fifth edition, p. 408.

by the absence of any sloughing or surface abrasion, notwithstanding the very small size of the pedicle, and the long time, three years, it had remained in the vagina.

Its mucous membrane was in perfect health and function, as shown by the enormous amount of muco-serous discharge which was noted in the clinical history. This discharge was so profuse as to necessitate the constant wearing of a napkin by the patient. Of course, part of this secretion was from the vaginal mucous membrane.

It is also noteworthy that the discharge was seldom ever tinged with blood, and menstruation was not excessive.

Notwithstanding the presence of this large body, but little smaller than the fetal head, in the vagina for probably three years, there was no irritation of the vaginal walls and no pain. The vagina was, of course, large. Neither was there any trouble on the part of the bladder, micturition remaining normal throughout. The function of the bowels was also unmolested, and no constipation occurred at any time. The patient's health was perfect.

The pedicle of the tumor bore one large artery, almost the size of the temporal, which was situated in the centre of its substance, penetrating deeply, but nothing can be said as to the distribution of branches throughout the body of the tumor, as the vessels were not injected. It may, however, be inferred that the blood supply was in abundance, though not excessive, as indicated by the health of its mucous membrane and the absence of both sloughing and hemorrhage.

The free vascular supply to the interior of this tumor was in accord with my observations in several other cases of the kind, but in conflict with the observations of Dr. Mary Putnam Jacobi, whose opinions on questions in histology are of high value, and who believes that the blood-vessels supplying these growths are confined chiefly to the enveloping mucous membrane.¹

Upon section of the tumor, it creaked under the knife, owing to the extreme firmness of its structure.

Its color was quite pale in the interior, while the mucous membrane, about a line in thickness, was a light red. Microscopically the surface of the section was marked by wavy fibres without definite arrangement.

¹ Trans. Amer. Gyn. Soc., vol. vi., page 287.

In some places the concentric nested disposition of the fibres, as pointed out by Sir James Simpson, was observed, while in others the curves were placed with their concavities looking, some toward the centre, and some toward the surface of the growth, and not all with their concavities looking inward as described by Lawson Tait.¹

The arrangement may indeed be said to have been regular only in its irregularity.

Under the microscope the mucous membrane differed from that of the uterus in that it was covered by squamous epithelium, but it resembled it in its relation to the underlying muscular structure, and the presence of large numbers of small round-celled embryonic elements. Pathologists have pointed out that these tumors, having had their origin within the uterus, when extruded into the vagina, often become covered with pavement epithelium.²

The bulk of the neoplasm was found to consist of smooth fusiform muscle fibres. Although the tumor as noted above was quite pale on section, yet the microscope showed an exceedingly abundant vascular supply, and blood-vessels were found in great numbers in all the sections.

Nothing can be said as to the arrangement or prevalence of capillaries in the mucous membrane, owing to the absence of injection.

There appeared to be some slight attempt at regularity in the arrangement of these fibres about the vessels, but this was lost at no great distance from them. Connective-tissue fibres were quite scarce, at least but few fibres were seen in which no nucleus could be made out by the staining.

This growth would thus appear to justify Tait's³ designation of these uterine tumors as myomata, since it was chiefly composed of muscular tissue, and marked by the irregularity characterizing the middle layer of the uterus.

The etiology of this class of neoplasm is still a matter of conjecture. Gusserow,⁴ says "of the causes of fibroid tumors we know as little as of the causes of most pathological new formations, that is, nothing."

¹ Trans. Obst. Soc., London, vol. xxv., page 194.

² Cornil and Ranvier, page 700.

³ Trans. Obst. Soc., London, vol. xxv.

⁴ Billroth, "Handbuch."

"The number and variety of causes assigned for the development of these growths by the elaborate and extensive researches of such observers as Virchow and Winckel only shows how far we are from a knowledge of the real cause."¹

Even with such elaborate statistical tables as to the relative prevalence of fibroid tumors, with respect to the social relations and ages of patients, as are given by Gusserow and Emmet, conclusions are far from harmonious.

Gusserow,² from a collection of 959 cases, finds 672 in married women, and the ages of greatest liability from 35 to 40.

Emmet, in 225 cases, finds 178 in married women, and the ages of greatest liability from 30 to 35 years.

Graily Hewitt,³ in a collection of 96 cases under his own observation, found that 78 were married, 30 of whom were sterile, and the greatest liability existed between the ages of 35 and 40.

My own observations of 400 cases of fibroid tumors show that 325 were in married women, and 75 were in unmarried women, while of these 325 which were in married women, 168 were sterile.

Without going into further detail, the following table of reported cases, with their social conditions and ages as far as given by the reporters, will show some of the differences in statistics.

Cases of Fibroid Tumor.

	Number of Cases.	Cases in Unmarried.	Cases in Married.	Cases in Fruitful.	Cases in Sterile.	Per cent Married.	Per cent Sterile.	Per cent Unmarried.	Age of Greatest Liability.
Hewitt.....	96	18	78	48	30	81	31	19	35-40
Emmet.....	225	47	178	113	65	79	29	21	30-35
Gusserow...	959	287	672	70	..	30	30-40
Dupuytren..	58	4	54	42	12	93	21	7	
Malgaigne..	25	4	21	11	10	84	40	16	
West.....	50	7	43	36	7	86	14	14	
McClintock..	25	4	21	11	10	84	40	16	
Schroeder...	38	8	30	19	11	79	29	21	
Reamy.....	400	75	325	157	168	81	42	19	

Here seems sufficient evidence for the following generally accepted conclusions :

¹ Hart and Barbour, "Manual Gyn.," page 386.

² Loc. cit., "Gynecology," 3d ed., p. 386.

³ "Diseases of Women," 2d Am. ed., p. 523.

1. That the age of greatest liability is between 30 and 40, certainly and probably between 30 and 35.

2. That old maids are first in rank of susceptibility, sterile married women second, and fruitful women third.

As a result of my own experience, I must beg leave to differ from the relative liability of maiden and sterile women as given in these conclusions. In my own practice I found that sterile women are first in rank of liability, and old maids second.

In addition to these conclusions, Emmet,¹ after submitting the most painstaking tables, is of opinion that fruitfulness decreases the liability of women only when within certain limits, and that when a number of pregnancies have occurred in rapid succession, the liability is increased to an equality with either sterility or virginity.

The liability of sterile women, as given by statistics, is probably smaller than actually exists, for women who have borne a single child, and have always subsequently been sterile, are classified as fruitful.

If women who are still in the possession of the menstrual function and living in marital relations, and have not given birth to a child for ten years, were classed as sterile women, as they probably should be, the liability of sterile women in statistical tables would be markedly increased. Indeed, this would show that practical sterility is the condition most favorable to fibroid growths.

Thus in Hewitt's cases, twelve of those classed fruitful had not given birth to a child for ten years, and taking these twelve from the class of fruitful and adding them to the sterile class, we would get single 18, fruitful 36, sterile 42.

West² found that out of 62 married women with fibroids, 31 had borne only one child, but the time which elapsed after the birth of child until the tumor developed is not given.

Emmet³ says, "The average length of time since the birth of the last child was eleven and one-fourth years," but the exact length of time is not given in each case.

Among my own cases occurring in married women classed as fruitful, of which there are 157, I find that 65 had only one child, but I regret to say that I have not the data at hand to

¹ Loc. cit., p. 562.

² "Diseases of Women," 31 Am. ed., page 226.

³ Loc. cit., p. 562.

show in each of these cases the exact time which elapsed between the last pregnancy and the detection of the fibroid. It may be stated, however, that in most of these cases a sufficient number of years had elapsed since the birth of the last child to establish the fact that special causes of unfruitfulness existed.

Enough is, however, given in these figures to give credence to the opinion that there is a remarkable and suggestive coincidence between limited or unlimited sterility, and the occurrence of fibroid tumors. It must be confessed that these statistics of relative sterility may in large measure be deceptive, owing to the manifold devices employed to prevent conception.

This coincidence has often been pointed out, and many attempts have been made to account for it. The exact relation between these conditions yet awaits demonstration. It is not determined whether nulliparity or limited fertility causes this fibrogenesis, or whether it is the effect of it.

The congestion theory, which makes both due to the same cause, is probably the most rational. The recent studies of Mary Putnam Jacobi upon menstruation, subinvolution, and chronic metritis, seem to offer the best clue to the solution of this problem.¹

She has demonstrated the reconstruction of the endometrium from the underlying embryonic tissue in menstruation. She has also shown the hystogenetic tendency of the same tissue under the stimulus of the exudation products of inflammation in chronic metritis.

She has also called attention to the inferential condition of the uterus in subinvolution, where venous congestion is the etiological factor, and where, without the arterial hyperemia necessary to inflammation, we have the venous hyperemia necessary to growth.

These tumors have beneath their mucous membrane, as was shown in this case, and as the distinguished authority just quoted has stated,² a layer of this embryonic tissue, which is the essential foundation of growth.

In normal menstruation, the arterial hyperemia which changes the growth of the endometrium into function, thus causing the dehiscence of the products of growth instituted by venous hyperemia during the intermenstrual period, must be

¹ AM. JOURN. OBST., 1885.

² Trans. Am. Gynec. Soc., vol. vi., p. 28.

universal throughout the entire uterine mucous membrane. When it is not sufficient for this purpose, and a part of the intermenstrual growth is not thus cast off, but a part is left over for the next menstrual epoch, a condition of increased endometrial growth ensues, from increased venous hyperemia, and a condition of menstrual subinvolution occurs.

It may readily be conceived that it is not necessary to a disorder of menstruation that the process of dehiscence should be universally interfered with. Some local irritant may confine this menstrual subinvolution to a single point or limited area of the endometrium, while the function and growth of menstruation in other parts of the membrane may be perfectly normal. This point of increased growth and decreased function would probably not return to the normal at succeeding menses, until it was finally beyond the reach of such arterial hyperemia as tends to maintain the normal state of the uterine mucosa, and was in a condition of permanent venous congestion.

Such venous congestion would undoubtedly lead to a localized growth or irregular hypertrophy, and such really is the structure of these neoplasms.

The character of such local irritation is not understood, but it is safe to say, from the clinical histories of these cases, that some derangement of menstruation, or some abnormality of parturition or uterine involution, always precedes these growths. Many cases are recorded where the seat of local irritation and the subsequent attachment of a fibroid was at the point of a placental adhesion.

I do not refer here to those neoplasms, fibroid in character, which have developed from a portion of adherent placenta, but to those which have developed after a pregnancy giving a history of adherent placenta, and whose histological structure bears no resemblance to organized placental tissue. I am of the opinion that, if a detailed history of every parturition preceding the development of fibroids was given, together with any post-partum phenomena abnormal in character, much enlightenment on the subject of the etiology of fibroids would be afforded.

The uterus is an organ whose muscular vigor is not always regular throughout its entire structure, as is evidenced in the unequal and irregular contractions occurring at times during labor. This irregularity in function indicates some local abnormality in structure, which may be the site of some localized

subinvolution, either parturient or menstrual. We should have some data regarding the clinical relations existing between subinvolution and endometritis, and the development of fibroid tumors.

We should also endeavor to determine how much of irritation and, therefore, etiological factor, in these cases is to be found in the various methods employed to prevent conception.

It is highly probable that, in sterile married women, and also in unmarried women, some disorder of menstruation always precedes these growths, and a complete history of these cases would always elicit more or less menstrual subinvolution.

Emmet says, in speaking of the frequency of these tumors in the unmarried: "that this is one of the tributes which a woman pays for her celibacy." This may be true, but I believe that careful inquiry will show that she began paying this tribute in some disorder of menstruation, from which the development of the tumor is but the natural result. This disorder may have been the result of nervous disease or anemia, of sexual excitement, of slight pelvic peritonitis, uterine flexions, etc.

It is common observation that fibroids of the uterus are more frequently found in the posterior wall than elsewhere. It is equally common knowledge that women are usually constipated, and the irritation to the posterior uterine wall by the constant presence of a distended rectum is at least suggestive of a possible rôle in causing the venous hyperemia in that region which may develop a fibroid.

CORRESPONDENCE.

A WORD TO MR. LAWSON TAIT.

BY

PROFESSOR CARL SCHROEDER.

TO THE EDITOR OF THE JOURNAL OF OBSTETRICS.

SIR:—It must be a genuine pleasure to every one truly interested in the progress of medical science to see at the present time how all civilized nations take an equal part in this progress,

how the active interchange of opinions is rapidly effacing the barriers of nationality, language, and custom, and how from year to year the medical art is assuming in every sense a more international character. Of course, if this intercourse is to be productive of good, the manner of discussion of medical topics must be such as is customary in good society all over the world. It is, above all, essential—until the contrary is clearly proved—that each participant in the discussion should believe in the good faith of his opponent, in short, in his personal honesty. If this condition is wanting, if an attempt is made to vilify the character of an adversary, and to cast doubt on his veracity, then proper debate ceases, and undignified bickering takes its place.

I am induced to make these remarks by the letter of Lawson Tait printed in the May number of this JOURNAL. This gentleman there makes the insinuation that the German statistics of myomotomy are incorrect, that the “real mortality” of myomotomy in Berlin is from forty to sixty per cent, and demands figures which shall contain the details of each case, with name and age of the person operated upon.

I protest against the assumption that only statistics published in this manner deserve belief. This demand is induced by a distrust which, so far as I know, is in no way justified. My statistics of myomotomy are published, the first one hundred cases in Hofmeier’s book on myomotomy, and the whole number up to that time—one hundred and thirty-five cases—in the seventh edition of my work on diseases of women.

If Mr. Lawson Tait pronounces these figures incorrect, I shall not discuss the matter with him, since I do not care to carry on a literary discussion with an opponent who takes me for a falsifier.

It seems to me, from long acquaintance with my German colleagues and with the practice of my English brethren, so far as I know it, entirely uncalled for to declare the statistics of an author, reported by himself, to be false, and to state the “real mortality” on one’s own authority on mere hearsay from private sources.

I can but feel the necessity, therefore, of differentiating in international scientific intercourse between medical men who appreciate the decencies and proprieties of the relations between colleagues, and such to whom such appreciation seems foreign.

Very respectfully, CARL SCHROEDER.

BERLIN, June 10th, 1886.

STATISTICS OF HYSTERECTOMY.

BY

MR. LAWSON TAIT.

TO THE EDITOR OF THE AMERICAN JOURNAL OF OBSTETRICS.

SIR:—On page 487 of your JOURNAL I said “that Dr. Bigelow has not accepted my challenge, made on September 19th, 1885, to let us know what the real mortality of hysterectomy in Berlin is. I am informed by trustworthy German and American visitors that it runs between forty and sixty per cent. If it is not so, then we ought to be put in possession of what the facts really are, but neither Dr. Bigelow nor his friends will ever venture upon a publication of statistics, as is the habit and custom in England, where every case is set down in detail in its order, authenticated by name and age in such a way that there can be no possible dispute as to its occurrence or result. Until this is done, nothing but condemnation can be meted out to the work of the German surgeons.”

I have been informed on the very best authority that this passage has given offence to Professor Schroeder, and he is one to whom I should regret very much indeed that anything I had said or written might be offensive. Since I wrote the sentences above quoted, I have been put in possession, thanks to the kindness of Dr. Mendes de Leon, of Amsterdam, of Dr. Hofmeier's book of “Myomotomie,” in which the result of Professor Schroeder's work is given. This is the first I have seen of any such complete tabulation by a German surgeon as is customary in England. In the sentences I have already quoted I had not the slightest intention of alluding specially to Dr. Schroeder, and the table I speak of entirely removes him from the category of people concerning whom I spoke. Further, I certainly did not in the least degree intend to give or convey the impression that Dr. Schroeder's published statistics were not to be depended upon. All I wanted was to see them, as now I have seen them published in detail, and now I want to see others.

But the results of the hysterectomies shown in Dr. Schroeder's table, amounting as they do to twenty-nine per cent, absolutely justify everything I said concerning this murderous operation, and wholly contradict the absurd conclusions advanced by Dr. Bigelow.

I am, etc.,

LAWSON TAIT.

BIRMINGHAM, June 14th, 1886.

STATISTICS OF ABDOMINAL SECTION.

BY

JOSEPH PRICE, M.D.

TO THE EDITOR OF THE AMERICAN JOURNAL OF OBSTETRICS.

SIR:—I wish as briefly as possible to notice a few points in the reply that Dr. Goodell has made to my review of his article on ovariectomy, in Pepper's "System of Medicine." First of all, for a work of the highly scientific and classical character of Dr. Pepper's "System of Medicine," edited as it is by one of enviable national reputation, scholarly attainments, and accuracy in all he performs, I would not have assumed myself to be "the proper person to collate statistics." So far as the article is concerned, for reviewing whose statistics so "ungraciously" I am called to task, my only intention was to point out the fact *that the figures therein given do not fairly set forth the status of "Ovariectomy," if you please, as it exists to-day, and as one would of a right expect to find it detailed in the work in which it finds a place.* The author of the article excuses its want of completeness, by pleading a lack of time to make it so. In singular contrast to this is the time devoted to the study of statistics in his "reply." The labor here expended, it would seem, would have been more opportune in the original article.

It will be seen by reference to my review in the June number of the AMERICAN JOURNAL OF OBSTETRICS that I there held the mortality attributed to Mr. Tait in his operations to be much too high. For my method of calculating this mortality I am called to task. For my error, *if error there was*, I am sincerely glad. The result has been that Mr. Tait now gets credit for even better results than I attributed to him. My regret is that justice was not given him in a classic publication, instead of in a magazine article.

While referring to the matter of statistics, I wish now to make brief reference to those of Clay, as given in the paper originally noticed.

The series of operations there reported was performed before the year 1861, with the results stated in the article reviewed (Tait, "Diseases of the Ovaries," p. 245). The series therefore cannot extend up to January 27th, 1883, as is implied in Dr. Goodell's explanation. For the statistics I have given of the results of Clay's operations, Mr. Tait himself is the authority.

He says:—"Dr. Clay continued to operate with very remarkable success for many years, until he had performed 395 operations with 101 deaths, his total mortality being therefore about 25 per cent. Tait, "Diseases of Ovaries," p. 245, Fourth Edition.

I now may briefly refer to the use of the terms "ovariotomy" and "abdominal section" so freely criticised in the "reply." If we examine the reports of Dr. Goodell for the last four years, 1882 to 1885,¹ inclusive, the term "laparotomy" is found used to designate the operations of two of these years, while "ovariotomy" is the term applied in the two others. "Laparotomy" is "abdominal section." (See Agnew, "System of Surgery," Vol. I., p. 407.)

One term, therefore, in accordance with Dr. Goodell's nomenclature, is no wider in its signification than the other. The use of the terms as made in my review was with especial reference to the fashion of our author, of applying either, as best pleases him, to his own operations.

The title of my review, therefore, read in this light, is no "misstatement." Besides, in the very first sentence of the review, the "statistics of ovariotomy" are distinctly mentioned.

A word now as to the individual record of Schroeder. In the third and the fifth hundred of this operator's cases, it will be remembered, seven deaths were recorded.² Dr. Goodell holds that the correct number is eight, in the third series stating that the eighth death occurred the *sixth week* in a patient in whom the irremovable part of the cyst had been sewed up. He adds: "Why the eighth case should be excluded from the list of deaths because the cyst was malignant, and the operation incomplete, I cannot see; nor could my reviewer, I am sure, were this fatal case mine instead of Schroeder's."

If reference is now made to Case 126 in Dr. Goodell's series (*Medical News*, p. 314, March 21st, 1885), it will be seen that this case is recorded as a recovery, notwithstanding the fact that the patient died *thirty-three days* after the operation. If this method of estimating mortality is allowable for Dr. Goodell, why is it not so for Schroeder? Dr. Goodell reproaches me for failing to notice the results of Martin, but passes my omission of Bantock, his distinguished friend, justly celebrated in abdominal surgery, without a wail. When he now in his "reply" alludes

¹ Medical News, April 14th, 1883; February 16th, 1884; March 21st, 1885; January 30th, 1886.

² Wells, "Surgical Treatment of Abdominal Tumors," p. 65; Schroeder's letter of November 30th, 1884.

to American and French operators, he simply adds weight to my previous criticism.

As to Peruzzi's statistics, if the best authorities are to be relied upon, I am correct.¹

There is no need of further noticing in this connection the mortality list of Tait and Keith. Tait's own expression has already been recorded ("Diseases of Ovaries," p. 249). If I am in error as to my understanding of Keith's statistics, the correction is welcome. I have this to add, however. On the same page of Spencer Wells' book, "On Ovarian and Uterine Tumors," 1882, p. 224, on which Dr. Goodell finds Keith's statistics, as recorded in his original article, immediately following the statistics he chose for some reason with "the utmost painstaking" to report, occurs the appended statement: "But the mortality has gradually diminished, and of the last 140 cases, 135 have done well. This presents the astonishing result of a loss of only 3.57 per cent. He (Keith) retains his preference for the cautery, and says, "In the treatment of the pedicle the best results by far are still got by the cautery. I much prefer the cautery, and think it the most perfect way. Of the last 120 cautery cases, there were only two deaths (1.6 per cent)."

One word further as to the adequacy of Dr. Goodell's statistics. He says: "I therefore gave what seemed to me statistical research enough to establish the point proposed, viz., that the fatality in ovariectomy lessens in proportion to the increase of the operator's experience."

On the contrary, it is easy to prove that the results of the younger operators, at home and abroad, without great personal experience, compare very favorably with those obtained by veteran ovariectomists. The younger Keith, who now counts his operations by the hundred, should have due credit for his wonderful skill and success. (In his first one hundred cases he had only 6 deaths, 4 hysterectomies being included in the series.) To deprive him of mention and credit, simply because he has a father who himself has become famous in the field of abdominal surgery, does not appear reasonable.

Why the full number of the elder Keith's operations was not set down ought to be apparent, for the reason that it would be unreasonable to criticise an article in the light of statistics not accessible to Dr. Goodell at the time of its production.

And now for the consideration of a point, vital in this relation. "The reply" states: "The whole stock in trade of my reviewer

¹ Spencer Wells, "Abdominal Tumors," 1885, p. 66.

consists solely of Spencer Wells' last work on 'The Diagnosis and Treatment of Abdominal Tumors,' which was published in England in the spring of 1885, and republished in this country in the following summer, and from this book he has taken all his telling statistics, without acknowledgment—statistics which, being embodied in personal communications to the distinguished author, appear nowhere else. This work I did not see until too late. Yet the lumped ovarian statistics of personal communication, however recent, cannot have the same weight as the older statistics which I have given in my article, etc." Let us look into this matter, and weigh the value of all this wrath. First of all, the book from which these statistics were taken is well known to all the reading profession. Second, Spencer Wells' name appears twice on the same page in connection with my statistics. *Verbum sat.*

Were these statistics accessible at the time of writing of the original article under discussion? This article appeared in February, 1886. Spencer Wells' book was published in the spring of 1885, was republished in this city, and was for sale on Walnut Street, May 23d, 1885, nearly a year before Dr. Goodell's article on "Ovariectomy." A long time surely for a production to be out of the hands of its author and out of the reach of correction.

But, to repeat: "The lumped ovarian statistics of personal communication, however recent, cannot have the same weight as the older statistics, etc." What wealth of resource! What skill in logic! First, these statistics appear too late (nearly an entire year before the publication of Dr. Goodell's article), and now, when at hand, they are not as valuable as those of an earlier date. History repeats itself, with Æsop for its writer: "At nunc acerbæ sunt"—the fox will not eat the grapes.

Therefore, as the criticism under question was meant to show what was wanting in Dr. Goodell's statistics, rather than to be an exhaustive and elaborate exposition of all the results of all operators, as it was meant to show what omissions Dr. Goodell made when data were present to supply such deficiency at the time of his writing, it seems evident that Dr. Goodell has done very honestly for the AMERICAN JOURNAL OF OBSTETRICS what he failed to do for Dr. Pepper's "System of Medicine," to wit:—*striven for accuracy even at the expense of his time.*

JOSEPH PRICE.

1317 SPRING GARDEN STREET, Philadelphia, Pa.

TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF PHILADELPHIA.

Special Meeting, April 15th, 1886.

The President, B. F. BAER, M.D., in the Chair.

DR. M. PRICE reported two cases of

EMMET'S BUTTON-HOLE OPERATION.

I desire to call the attention of the Society to a novel operation for the diagnosis and treatment of urethral and vesical diseases, and accidents incident to parturition, devised and practised by Dr. Emmet, of New York, for the past six years. In the last edition of his gynecology, he treats the subject elaborately, and gives it as, in his judgment, the most rational treatment for prolapsus of the mucous and submucous tissues, urethrocele, lacerations of the urethra from dilatation or injuries in labor, gonorrheal inflammation, and abscess in the urethral wall.

I desire to report two cases of this operation, where no other treatment, in my judgment, would have been of the slightest benefit to the patient. The operation recommended by Dr. Emmet is what he designates as his "button-hole operation of the urethra," and may be performed either in the Sims' position or in the lithotomy position. The operation consists in opening the urethra from three-quarters to one inch, midway between the urethral orifice and the neck of the bladder, thus giving ample room for inspection of the canal for any growth or condition requiring drainage or operative procedure. In those cases where the opening is made for diagnostic purposes simply, the opening may be closed with sutures, or be allowed to close in its own way. Many cases of urethral irritation are wonderfully benefited and most of them entirely cured simply by the free drainage it allows. The mucous membrane of the urethra and vagina are tacked together in these cases to prevent retraction. In the operation for urethrocele, the urethral opening is made through the pouch or dilated portion of the urethra, while a block-tin bougie is held in the bladder. The opening is continued down into the mucous membrane covering the sound, and a sufficiently large piece of the mucous membrane of the vagina removed to insure the removal of the pouch. The mucous membrane is then taken under the sound and drawn through the button-hole opening, so as to obliterate the redundancy of mucous membrane. Sutures are then passed from the vaginal surface to the block-tin sound, and back on the opposite side in the same position; all the sutures being thus introduced before cutting away the redundant mucous membrane held by a tenaculum in the hands of an assistant. This

is to prevent the possibility of failing to incorporate the mucous membrane of the urethra in the sutures, and so fail to secure a perfect result, inasmuch as it is the mucous membrane which, on account of its diseased condition, is giving the most trouble. This is also the operation performed for prolapse of the mucous membrane; its redundancy being pulled through the button-hole opening, back from the meatus and there fastened. The redundancy is then cut away, instead of cauterizing it as in the past.

The first case is that of a lady 32 years of age, the mother of four children. The last labor was very brief, as the woman was delivered with forceps in the hands of a medical man who had another engagement and could not be delayed. This was four years ago. The woman, when she came into my hands, was suffering from a double laceration of the cervix which was torn back to the vaginal vault; with laceration of the perineum back to the sphincter, and with a urethrocele that would have held two drachms of urine. There was also quite a protrusion of the mucous membrane of the urethra, what Emmet calls "hemorrhoids of the urethra," from constant straining to pass urine. This woman had suffered constant tenesmus or bearing-down pains ever since her confinement, with inability at times to go more than half an hour without passing urine; at other times she was compelled to micturate every few moments, the urine passing with the greatest difficulty.

This was making great inroads upon her health. She had consulted quite a number of physicians and was treated, from what I can understand, for "cystitis" and "ulceration of the womb." This I believe was the diagnosis of her trouble by the gentleman who had rendered her such efficient service at her delivery. The patient was operated on after the method of Dr. Emmet. An opening one and one-fourth inches in length on the vaginal surface and three-fourths of an inch in the urethral wall was made, and the superfluous mucous membrane both from the urethrocele and from the mouth of the urethra drawn through the vaginal aperture, and the sutures put in before cutting away the redundancy of tissue. Seven sutures were applied, and a perfect result was obtained in one week. When the sutures were removed, they were all found in a space not larger than the end of my thumb, in consequence of the contraction of the tissues. The woman passed her water ten hours after the operation, and continued to do so afterwards without pain or discomfort. At the present time, three months after the operation, she says she is better than she has been at any other time since her last labor. I would also state that the perineum and cervix were also repaired at the same time. Silk-worm-gut sutures were used in this case.

The second case is one of great interest from a medico-legal point of view, as the cavity of the urethrocele was lined with a pus-secreting membrane. The patient, although under my care,

was not examined until after the urethrocele became very troublesome. I then learned that difficulty from this source, gradually growing worse, had been experienced for four years. These facts were not ascertained until the husband had repeatedly presented himself for treatment of a mild urethritis which always developed after sexual intercourse. His condition had been attributed to other than legitimate causes. After a considerable number of attacks, he began to inquire the cause of his affliction. Having been asked the question as to "foreign relations," he stoutly denied any such cause, though he admitted that he had suffered from gonorrhea early in life, but had been completely cured long before the time of his marriage, some fifteen years ago. He was then asked to have his wife present herself for examination at my office. I found her suffering from laceration of the cervix and a urethrocele. The urethrocele was exceedingly tender to pressure, and had the feel of a fibrous growth; no fluctuation could be detected upon light handling in examination. A pus cavity was suspected from the painful character of the tumor and the husband's condition. Repeated attacks of urethritis following sexual intercourse indicated an unusually irritating discharge from some source, and as the mucous surface of the vagina and cervix was in a healthy condition, and the discharges mild and unirritating, there could be but one rational explanation of the husband's condition, viz., a suppurating sacculated condition of the urethrocele with periodical discharges of pus. Examination under ether fully confirmed the suspected pathological condition. The urethrocele was thickened, corrugated, and filled with purulent ammoniacal urine. The patient was placed in Sims' position, and the operation was performed as detailed in the other case, except that the pus-secreting membrane was carefully removed with the scissors, and the edges of the healthy mucous membrane were picked up with a tenaculum, and the sutures of silk-worm-gut introduced as in the case before cited. A perfect result was obtained, removing all irritation of body and mind.

DR. JOSEPH PRICE reported for DR. BARTON HIRST a case of

VULVO-RECTAL FISTULA FROM VIOLENCE DURING FIRST COITION.

The patient, a young woman of 22, presented herself at the gynecological clinic of the Philadelphia Dispensary, with the following history: Previous to her marriage, which took place eighteen months ago, she had been a perfectly healthy woman. From the first attempt at sexual intercourse with her husband, which caused her to suffer such acute pain that she almost fainted, she dates all her trouble. The sexual act was also followed by severe hemorrhage, which persisted for a month; the passage of feces and flatus per vulvam was at once noticed. Every repetition of the sexual act for the next two or three weeks was followed by renewed bleeding, and even at the present time she suffers severely during inter-

course. The passage of the fecal matter through the vulva gradually increased in degree, until the rectum was evacuated entirely through the vulva. There has been entire inability to retain flatus and feces. *Examination:* The finger on entering the vulva passes at once into the rectum through a patulous opening of sufficient size to admit two fingers. Inspection shows a perfectly intact, crescentic hymen, of moderate thickness and rigidity, having a small anterior opening. Immediately in front of its posterior attachment is an irregular, transverse tear, an inch and a half in its longest diameter, with thickened and everted edges, extending backwards and upwards for about one and a half inches, exposing to view the mucous membrane of the bowel. The vagina is small, and has evidently never been entered. The operation proposed by Joseph Price and done by him March 16th, 1886, consisted in freshening the edges of the tear, partially loosening the hymen from its attachment, and using it as a flap to supply the deficiency of tissue. Shotted silk-worm-gut sutures were used, and the closure after the operation was complete and resulted in perfect union. This form of injury to the vulva is very rare, for although sixteen cases¹ of rupture of the vagina have been reported during late years as occurring during coition, only one of them, reported by Blumenthal and operated on by Sir Spencer Wells at the Samaritan Hospital in 1860, bears any resemblance to the present case, which from the careful analysis given it by Dr. Harris, is without doubt one of vulvo-rectal fistula. This form of fistula is much less common than the recto-vaginal. The case here reported is of especial interest from the fact that the traumatism undoubtedly occurred during first coition; from the virginal condition of the hymen, and from the long time during which sexual relations were maintained under circumstances which must have been disagreeable to both husband and wife. There was no sign or suspicion of specific taint in either man or wife.

DR. HARRIS remarked that he had seen and examined the patient and was struck with her emaciation, and inquired of her sister if she had not lost a great deal of flesh since her marriage. This brought out three photographs, all of which represented a short woman of full habit, one of them having been taken two months

¹ Paul F. Mundé, two cases, Boston Med. and Surg. Journ., 1885.

Zeiss, two cases, Centralbl. f. Gynäkologie, 1885.

Chadwick, one case, Boston Med. and Surg. Journ.

Colles, one case, London Med. Times and Gaz.

Schroeder, one case, "Gynecology," last edition.

Blumenthal, one case, London Med. Times and Gaz., 1860.

Thompson, one case, Med. News, 1885.

Ross, one case, Canadian Med. and Surg. Journ.

Massalitinew, one case, Centralbl. f. Gynäk.

Kleinwächter, one case, Wien. Med. Wochensch., 1885.

Cayley, two cases, Indian Med. Gaz., 1872.

Neumann, one case, Lect. in Allgemein Hosp., Vienna.

before her marriage. The sister stated that the patient had no control over her evacuations from the rectum, and that she was being constantly soiled by their escape. But for the fact that the husband had been deprived of his prepuce in infancy, thereby rendering the penis callous by the exposure of the glans to the air, it is hardly possible that he could have forced the organ through the flesh as he did, without so much personal suffering as to compel him to desist. Possibly, also, the tissues penetrated may have been less resisting than normal. As the arm of a fetus has been known to perforate the rectum and protrude at the anus during labor, without laceration of the perineum, there must be in some women a much less than usual strength in the rectal wall. In considering the emaciation of this woman during the eighteen months of her married life, the question naturally arises, Was this condition due to the want of rectal alimentation, to the constant loss of fecal matter, or to the depressing effects of her condition, weakening her appetite and rendering her life miserable? The opening through the fossa navicularis into the rectum corresponded exactly with some of the cases of congenital malformation which Dr. Harris had met with, and particularly with one in a large stout primipara. In her, however, there was a slight anal sphincter, and, except when affected with diarrhea, she had control over her evacuations. The only case on record which corresponds to this was operated upon by Sir Spencer Wells, in December, 1859, at the Samaritan Hospital.

DR. PRICE remarked that eighteen gut sutures were introduced in closing the wound.

DR. CHARLES MEIGS WILSON exhibited a

FIBROID POLYPUS OF THE UTERUS.

This specimen was removed three weeks ago from the uterus of a patient with the following history: For the past three years she had been flooding almost constantly. Her flow had increased regularly at her catamenial periods, and at no time had it entirely ceased. She had suffered all that time agonizing pain, greatly increased during the menstrual period. The continued loss of blood had reduced her weight one-fourth, and the continued anemia of her nerve-centres had produced characteristic effects. During all this time she had had given her all the agents of the pharmacopeia vaunted for their efficacy in controlling uterine hemorrhage. But the cavity of the uterus had never been explored, save in a desultory way with a sound. When first seen she was extremely anemic, emaciated, troubled with insomnia, and had a very irritable stomach. The uterus was dilated with the Ellwood-Wilson curved dilator. The growth, then readily seen, was grasped with a volsella and dragged as far as possible from the uterus; a curved, crescentic-shaped, probe-pointed bistoury was then made to sweep over the surface of the growth until it came in contact with the sessile attachment of the tumor, which was severed with a sawing movement of the knife. Prior to the operation, large doses of the fluid extract of ergot were given to the patient for forty-eight hours, in order to insure powerful contrac-

tions of the uterus after the tumor was removed. Immediately after the ablation of the growth, the cavity of the uterus was smeared with a solution of one part of Tait's iodine and two parts of pure carbolic acid. During the operation, the patient lost half an ounce of blood. The removal of the tumor would undoubtedly have been accompanied by excessive hemorrhage had not the precaution been taken to secure prompt uterine contraction by the previous administration of ergot. The patient made a happy recovery, has lost no blood at all since the operation, has gained in weight and improved in appetite. The case carries with it its own lessons. All the fruitless medication and the long period of suffering and distress might have been avoided had her medical attendants at the beginning dilated and explored the uterine cavity, removing the cause of the hemorrhage instead of temporizing and making use of methods which at best, in cases of continued hemorrhage from the cavity of the uterus, are of a prophylactic nature. The polypus when fresh was four inches in length, two and a quarter in breadth, and one and three-quarters in thickness.

DR. GOODELL thought it was an error to expect hemorrhage after the removal of uterine fibroids. Velpeau had removed a very large number of these tumors, and his method had been to cut them away by means of a knife, and yet he had hemorrhage in two cases only. Dr. Goodell has removed very many of these tumors, and has employed every method; he has never had any trouble from hemorrhage. In Constantinople, while young in experience, and in consultation with another very young man, he saw a case in which auto-enucleation had commenced. The tumor was too large for removal by means of the *écraseur*, as the vagina was so filled up that the wire could not be got up to the base of the tumor. They concluded to cut off all they could get at, and then gave ergot. The next day another large slice was removed, and at the end of a week they succeeded in dividing the false pedicle, and all was safely removed without any hemorrhage whatever. Since then he has ceased to fear hemorrhage, and thinks a danger is incurred by the use of ergot in causing contraction of the cervix uteri and incarcerating the tumor. He removes many submucous tumors by dilating the cervix with his dilator, passing in the polypus forceps, and accomplishing the diagnosis and removal at the same time, the latter being effected by twisting. When he has recourse to the *écraseur*, he now uses the finest piano wire, which is more efficient than the heavier, and less likely to break. He first pushes the *écraseur* up to the fundus uteri with the wire bent over, and then coaxes the wire up, and in this way has little trouble in getting it around the base of the tumor. Before tightening the wire, he removes traction from the tumor and pushes up with the *écraseur*, so as to correct any inversion of the uterus that may have been caused in pulling the tumor down. Now when the wire is tightened, the tumor will be divided without fear of injuring the uterine tissue.

DR. HOWARD A. KELLY said the choice of method in these cases should depend largely upon the individual peculiarity. Chassaignac's *écraseur* had rendered him good service in those polypi having broader bases of attachment, but when this is at the fundus, and

a large tumor chokes the vagina or cervix uteri, the difficulty of satisfactorily fixing the loop is very great. The porte-chaine added to the *écraseur* by Marion Sims is serviceable, but nothing will compare with the flexible, easily adjusted wire of a Braxton Hicks *écraseur*. Where the pedicle was neither large nor dense, he has had great satisfaction in the use of phosphor-bronze wire, which is so much more easily manipulated than piano wire. Scanzoni's plan of cutting the tumor off when the pedicle is long is excellent and safe. It is evident that rigid antiseptic precautions should accompany any such operation.

DR. PARISH did not think there was much difference in the methods of different operators. He never gives ergot before any intrauterine operation in which he wishes relaxation of the cervix. With the *écraseur* he uses wire, and introduces it in the manner described by Dr. Goodell, and uses jeweller's pliers to manipulate the wire, pushing it up and around the tumor. He has no fears of sepsis if all the tumor be removed, but he takes the precaution of injecting a very hot solution of mercuric chloride after operating.

DR. MONTGOMERY has had free hemorrhage after removing uterine fibroids by means of the *écraseur*. This hemorrhage was so free in one case that hot-water injections would not control it, and Monsel's solution was applied with success. He, however, would not give ergot beforehand, for fear of causing rigidity of the cervical tissues. In one instance, large piano wire snapped several times on account of the firm, dense character of the pedicle, and he had recourse to cutting away portions of the tumor, the remainder being thrown off by natural action. The tumor had been adherent to the posterior wall of the uterus, and had been partially enucleated before operation. The patient was very weak, and septicemia and death resulted. In a case in which he used the wire *écraseur*, a portion of the tumor was left; it was thrown off by auto-enucleation, and was very offensive. The patient did not suffer from sepsis, but having wounded his own finger with a tenaculum in its removal, he was very sick in consequence. He thinks the spoon curette or saw would be the best instrument in the enucleation of large fibroids.

DR. GOODELL carefully cleanses out the vagina before and after operation. He formerly used carbolic acid, but now prefers the mercuric chloride. He prefers the high-note piano wire, which has never broken in his hands, as it cuts as well as crushes.

DR. W. S. STEWART is glad to hear about the greater strength of the small piano wire, as he has been using triple twisted wire and has been much troubled by its breaking, so that he has given it up for the chain. He had mentioned his trouble to Gemrig, who recommended iron wire, which has been answering a very good purpose. He much prefers Labarraque's solution of chlorinated soda as an antiseptic and disinfectant.

DR. GOODELL remarked that the finer piano wire was not stronger, but was more efficient, as it cuts more easily through the tissues. Twisted wire will break more easily than single, because the strain on the different strands is unequal.

DR. BAER agrees with Drs. Goodell and Parish as to the unadvisability of using ergot before operating. He has given up the *écraseur* on account of the difficulty attending the breaking of the wire. He is now in the habit of pulling down the tumor and removing it piecemeal. He uses vinegar if a styptic is needed.

DR. WILSON has seen one death follow the use of the *écraseur*, and has had trouble in adjusting the wire; the liability of removing uterine tissue by the wire is a great danger. He thinks it better to drag the tumor down and cut it off in pieces. He feared hemorrhage in this patient on account of the fearful loss of blood which she had already sustained. He considered prophylaxis the safer course.

VAGINAL HYSTERECTOMY.

DR. WM. GOODELL exhibited a womb which he had removed per vaginam. The woman had been brought to him by Dr. F. R. Gerhard, of Douglassville, Pa. She was sixty-five years old, and had given birth to twelve children. She had a hypertrophic elongation of the womb, the sound giving a measurement of nearly five inches; her cervix was outside of her body, and it was very greatly enlarged in every direction by a carcinoma. On March 10th, before the students of the University of Pennsylvania, he amputated the cervix, after applying an elastic ligature; but, finding that Douglas' pouch had been opened, he concluded to perform the radical operation. The womb was accordingly retroverted, its attachments to the bladder severed, the broad ligaments tied *en masse*, each with two strong ligatures, and the womb removed. The large gaping wound was closed by seven wire sutures, leaving only a small opening through which the ligatures passed and acted as drainage tubes. Sublimated cotton was lightly packed into the vagina. This was removed twice a day, and the wound syringed out with a one-to-two-thousand solution of mercuric chloride. On the next day the temperature rose to 100.2°, but it never after that day reached 100°. The sutures were removed on the fourteenth day, and with some difficulty, as they were now high up in the apex of a cone-shaped vagina. She was able to go home on the twenty-third day after the operation.

DR. H. A. KELLY remarked that he wished in this connection to emphasize a point of vital importance in every operation where there is either artificial or pathological descent of the cervix proper. The slightest traction, elongating the cervix, draws the vaginal vault down over the displaced supra-vaginal portion, like the finger of a glove, and unless especial care is directed to this point there is imminent danger of scalping the vagina in any operation then performed on the cervix. In lacerated cervix, particularly where Dawson's scissors are used (and great downward traction is fashionable), the bases of the broad ligaments are opened in this way; and in amputation intended to be limited to the infra-vaginal cervix, as in this case of Dr. Goodell's, either the scalping process lays bare a broad tract of areolar tissue in the vault around the cervix, or, worst of all, Douglas' pouch is laid open. It is unnecessary to enlarge upon the greatly increased dangers of septic infection. He would ask Dr. Goodell in regard to the after-treatment of this case. In the latest contribution to this subject by Dr. Brennecke, of Magdeburg, in the *Zeitschrift für Geburtshülfe und Gynäkologie*, he clearly shows that those

cases ran a most favorable course in which the iodoform tampon was not removed for six or seven days, and that syringing after operation, with a view of carrying off foul discharge, is a pernicious practice, as it separates the peritoneal surfaces which have just formed delicate adhesions, and breaks up the early steps of repair, without the possibility of accomplishing its purpose. A point well worth attention is Brennecke's method of dealing with the upper part of the stump of the broad ligaments, which are caught in stout ligatures. Experience has shown that the distal end is very apt to slough; and to secure an immunity from the dangers of sloughing, Brennecke ties the ligatures of opposite sides across and everts the two stumps, thus fastened together, into the vagina, where they cannot do harm, and help form a plug for the wound.

DR. MONTGOMERY questions the propriety of total extirpation of the uterus. How long is the patient likely to live after this operation? If partial removal gives equal relief from the disease for which the operation is performed, and an equal or greater chance for a prolongation of life, it is to be preferred as the least dangerous. Hofmeier, in a summary of German gynecological work, opposes total extirpation if it can be avoided. He reports 145 cases of partial and 39 of total removal of the uterus. Ten of each series were fatal. In six of the partial cases the result was unknown. Of the total removals six only were living at the end of two years and none at the end of three years; while of the partial, six still lived at the end of the fifth year. Following the plan suggested by Sims and Van de Warker in cases of malignant disease of the cervix, Dr. Montgomery makes an incision into the uterus at the vaginal junction, and dissects upward as closely as possible to the peritoneal surface, while making traction on the cervix; thus, as it were, enucleates the uterus, leaving a very thin wall; he then stuffs this cavity with a mixture of equal quantities of zinc chloride and water, on cotton tampons, to cause a slough of any diseased tissue that may have been left behind. If by chance the sloughing should perforate the peritoneum, the previous inflammatory exudation would save the peritoneal cavity from invasion.

DR. H. A. KELLY does not wish the claim of an eminent American surgeon to priority in this matter to be forgotten. The credit of originating the highest practicable cone-shaped amputation of the uterus, and establishing its great utility, its safety, and relatively greater success, is due to Dr. Baker, of Boston. He uses no cautery, and controls hemorrhage perfectly by the effect of the strong downward traction upon the vessels.¹

DR. PARISH mentioned an earlier operation by Hirth, of San Antonio, Texas, who practised the method described by Dr. Montgomery, of enucleating the uterus from its peritoneal covering. He divided the vaginal mucous membrane, and gradually shelled or scooped out the uterine tissue. The operation was accompanied by great hemorrhage.

¹ [This is an error. Dr. Baker's one great point is that he controls hemorrhage and insures permanence of result by carefully, slowly, and thoroughly *searing* the whole surface of the wound after excision of the diseased mass with "the actual cautery at a red heat." And he adds, "this part of the operation takes considerable time, for as the traction is relaxed there is likely to be more or less hemorrhage," etc. (See AM. JOUR. OBST., April, 1882, pp. 268 seq.)—EDITOR.]

DR. C. M. WILSON thought such an operation very dangerous, and liable to be followed by secondary hemorrhage. He has, in two cases after Dr. Baker's method, used a hot tamponade of the uterus and vagina after the operation. Dr. McCormick, of London, packed the stump with bandage or gauze filled with iodoform, and allowed it to remain undisturbed for nine days. This was perfectly sweet when removed, and is a good and safe plan of after-treatment.

DR. GOODELL said the method of Brennecke's, of not washing, seemed to him to be undoubtedly a good one, and he would in future adopt it. He once had an alarming hemorrhage from the division of a large vessel, after a hole had been accidentally made in Douglas' cul-de-sac in the high amputation. Consequently he could not pack the vagina, for fear of forcing blood, etc., into the peritoneal cavity, and he had to control the bleeding by twisting a wire around it. He generally uses Paquelin to control hemorrhage in these cases, and has operated upon at least two hundred with only four deaths. Neither of the fatal cases were high operations. One death was from secondary hemorrhage, one from tetanus, one from a frank peritonitis, and one from septicæmia. He thinks the high operation the most feasible one in the majority of cases in which the womb is movable, and he has extirpated the womb but twice for carcinoma.

DR. H. A. KELLY exhibited the sac of an

OVARIAN TUMOR THAT WEIGHED AT REMOVAL ONE HUNDRED POUNDS.

DR. GOODELL congratulated Dr. Kelly upon his success in removing such a large tumor. He, Dr. Goodell, had on one occasion removed a tumor weighing one hundred and twelve pounds from a woman who after the operation weighed only seventy-four pounds. As in Dr. Kelly's patient, the tumor reached the patient's knees, and she could not lie down. After the operation, the large folds of the stretched skin were a great annoyance, but after some months it had entirely contracted. The patient made a complete recovery.

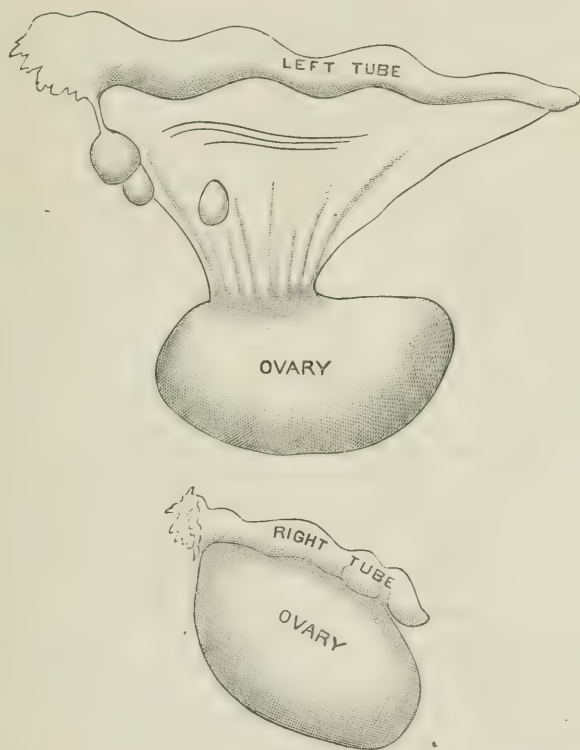
DR. M. PRICE had been present at Dr. Kelly's operation. A large vein was torn, and a stream of blood as large as his finger poured out. The patient collapsed instantly, and Dr. Price thought her dead, but he was surprised and pleased at the effects of a hypodermatic injection of fl. 3 i. of sulphuric ether, which restored the pulsation quickly.

DR. H. A. KELLY exhibited the

OVARIES AND TUBES FROM A CASE OF CHRONIC OVARITIS, SALPINGITIS, AND PELVIC PERITONITIS.—Also: THE RIGHT OVARY AND TUBE OF A CASE OF CELLULITIC CONTRACTION OF RIGHT BROAD LIGAMENT, WITH DISAPPEARANCE OF THE MESO-SALPINX AND COHERENCE OF OVARY AND TUBE,

of which the following is the history: H. P., married, age 32, IVparous, has always been irregular in her menstrual function, the flow generally appearing from ten days to two weeks later than expected, and being scant. Her last confinement was eleven months ago. Labor was slow, but no instruments were used. The child died in two months. Ten days after delivery, she had an

attack of "typhoid fever" (*sic*), and since then she has never been well. During the fever, which lasted many weeks, she had constant severe pain in the right ovarian region, and had repeated chills and flushes of heat. She has at present severe pain in the right ovarian region, and constant headache; is unable to work or exert herself in any way. She has not now menstruated for two months, although regular before. She has a leucorrhœa which is intermittent in character. Bimanual examination reveals an enlargement on the right side, extending from the middle of the hypo-



gastrium two and a half inches to the right, downwards to the pubis and upwards almost half-way to the umbilicus. It is most prominent above, very tender and semi-fluctuant; every movement of the mass carries the cervix with it. The cervix points to the left, and the right fornix is very shallow. The mass has no firm attachment to the pelvis, but is easily movable. It seems to spring from the right cornu uteri. February: Pain and sensitiveness great. The right fornix obliterated, and the uterus drawn bodily to the right side by a shrinkage in the mass. There is a mass, which is as hard as a bone, on the left side, like a

finger, high up behind the vagina, pointing down in its axis. March: After faithful and prolonged treatment, consisting for the most part of rest, with counter-irritation in the vagina and on the abdomen, and hot douche and glycerin plug, I made an exploratory incision, at my private hospital, on March 27th, in the presence of Drs. R. P. Harris, Chas. Herman Thomas, P. G. Clark, Marie B. Werner, Boyle (of Kansas), Bull (of Missouri), Baldy, and J. W. Mecaskey, to whose courtesy I was indebted for the case, and assisted by Dr. Jos. Hoffman. The right cornu uteri was found elevated and matted with a mass of mesentery, in which it was completely encapsulated. This was slowly detached, layer by layer, and the vermiform appendix separated for an extent of two inches. The tip of the appendix gave rise to troublesome bleeding finally checked by the cautery. An enlarged ovary, with a withered tube intimately adherent to its periphery, was then raised with great difficulty; a black-walled cyst, about one and a half centimetres in diameter, burst and a quantity of grumous matter escaped into the peritoneum. The ovary and tube were removed with great difficulty, and a part of the hilum was left in the grasp of the ligature. This was carefully burned. The illustration gives a correct indication of the structural changes in the right ovary, tube, and ligament. The left ovary and tube, which were free and sound, I also removed, as I was anxious to stop all determination of blood to the uterus. The figure shows well the contrast between the two. The operation was protracted, lasting one and three-quarter hours. The patient died on the seventh day of one of those remarkable insidious attacks of peritonitis. She appeared to be doing well until the seventh day, when I found her with a wild, frightened look and a pulse of 200. She had no pain at all. I broke up the adhesions in the lower part of the wound, which looked well, but I could not reach anything within the wound, and she died in two hours. Dr. R. P. Harris was present at the autopsy, a few hours later. The recti had a deep-red, unhealthy appearance, and a few spots of pus lay in the floor of the wound opened down to the peritoneum. The peritoneum was firmly glued together, and my effort in the morning had not penetrated it; for, as soon as the adhesions loosened, a large quantity—at least a pint—of brown pus rushed out, and I found the whole posterior part of the pelvis shut off from the general peritoneum by firm agglutination of the viscera above, and full of the same material. My chief anxiety was to find the vermiform appendix and see if I could blame it for any share in the result. It was found with difficulty, and was covered with a thick layer of lymph. The sepsis came from the matter which escaped from the ovary. I say this, for I have never yet seen sepsis in any clean case. Then, in looking back for unnoticed symptoms for future guidance in such cases, several points deserved closer attention than they received. *First*: She complained more than usual of

pain in the first three days. *Second*: The pulse remained about 112, instead of dropping below 100, as usual. *Third*: She wandered a little occasionally, insisting once that she saw a man in the room. She was more nervous about herself than any of my other cases had ever been, often insisting on sending for me in the night. These signs taken together are certainly significant in the absence of pulse and temperature indications.

DR. R. P. HARRIS saw both the patients from whom these specimens were removed. The ovary in the latter case presented a very peculiar appearance; it was cartilaginous, with small cysts. The material escaping from these cysts caused septic peritonitis. The first patient was wonderfully changed by the operation. She was free from pain for the first time in twenty-four years, and could scarcely be kept quiet, so great was her joy at her release.

A UNIQUE CASE OF EXTRAUTERINE PREGNANCY. COMPLETE REMOVAL OF THE SAC AND CONTENTS. RECOVERY.

By HOWARD A. KELLY; with a critical examination of the cases of faradic feticide, and remarks upon its dangers, by DR. R. P. HARRIS.—Mrs. J. B., 22 years of age, married three years, of medium size, well built, but rather pale and worn looking; has been twice pregnant, the first being a premature still-birth, the second a cross-birth, necessitating turning by the feet. Since the last pregnancy she menstruated seven times. In July she menstruated for the last time for four months, when a flow came on (in November), at which time she passed a piece of flesh called by a doctor a "false conception." Previously to this she had noticed a swelling in the right ovarian region, which gave her severe pain. This pain was constant until the flow came on, when it was relieved. In December, three weeks after this flow, she thought she felt life, and believed she was pregnant. She then had colostrum, and a dull pain in the breast, and the nipples were coated with a waxy secretion. *Examination*: A tense, smooth, elongated, ovoid sac lay in front of the uterus (which reclined in the hollow of the sacrum), and rising out of the pelvis, pointing over the pubis, reached half-way up to the umbilicus, as she reclined on her back. The tumor was very tender on pressure, and presented a remarkable smoothness and uniformity of its surface. It had a tense fluctuant feeling, and was distinctly movable as distinct from but closely connected with the right side of the uterus. She menstruated regularly in January, February, and March, the flow being light in color and much more profuse, lasting two or three days longer than her normal menstruation. On March 13th, she was menstruating freely, and, the note states, "the uterus lies, small in size, in the sacral hollow, and in raising the finger from the cervix to the anterior vaginal wall, an elongated, ovoid, tense cyst is felt on the right side; it is about three and a half inches long, by two and a half wide. The cyst lies in the plane of the superior strait. The anterior extremity of the ovoid lies at the pubis, and its posterior,

attached extremity at the right cornu uteri. A well-defined sulcus exists between tumor and uterus, and the two are connected by a short but distinct pedicle. The tumor is very smooth, and of a remarkable rubber-ball elasticity. It is movable over an excursus of one or two inches, but too tender to manipulate further." These notes were made a week before the operation, which was upon March 20th. I then wrote to Dr. R. P. Harris that I expected to operate upon an extrauterine cyst, and upon March 20th, assisted by Dr. Jos. Hoffman, and in the presence of Drs. R. P. Harris, Chas. H. Thomas, Marie Werner, Wm. Stuart, Baldy, Chas. M. Wilson, Jos. Gibbs, R. Keely, Paris G. Clark, McConnell and others, the sac and its contents were removed. The belly walls were fat. The incision was about three and a half inches in length, through the linea alba, beginning about one inch above the pubis. The sac wobbled about so in the pelvis that it was hard to bring its globular form up under the line of incision. It felt at first like an enlarged uterus, but the uterus lay retroposed, anteflexed, reclining in the sacral hollow. The tumor was raised and brought out of the pelvis by passing two fingers in front of and under it, hooking it up and revolving it on the axis of its attachment at the broad ligament; it was then delivered through the linear incision by pressing the walls outward and towards the patient's back until it slipped out; it was then transfixed below its base and tied, and with the ovary and whole of the right Fallopian tube was removed intact. The cyst was reddish-blue in color, and developed in the free margin of the right Fallopian tube, its longest diameter crossing the axis of the tube at right angles. Pure water was used for the sponges, and the instruments were kept in a dry pan. No antiseptic of any sort was employed. Everything was thoroughly clean and prepared beforehand, and no antiseptic was needed. The whole operation, from beginning to complete closure, lasted forty minutes. Silk-worm-gut sutures, about four to the inch, were used to close the wound, and with a little iodoform powder and dry absorbent cotton the dressing was complete. The sac was about three inches long by two and a half wide, smooth and slightly rugose in its long diameter. Dr. Chas. Hermon Thomas incised it at its free extremity, cutting through the placenta into the amniotic sac, which did not contain a drop of fluid. The hands, and then the head of the brownish, exsanguined fetus protruded, its cranial bones well developed. There was not the slightest fecidity. The whole fetus was well formed and perfectly preserved. It was a male, measuring five and three-fourths inches in length; the cord was five inches long, twisted from left to right. The recovery was as rapid and perfect as after any simple abdominal operation. An objection which naturally presents itself, and one which has been urged is this. Here was an extrauterine cyst, containing a mummifying fetus in just the condition we try to obtain by faradic feticide. Why interfere with it at all? My rea-

sons were several. *First*: My patient was constantly suffering from a painful tumor. *Second*: She had deteriorated greatly in health, and in place of her usual fresh and rosy complexion was looking sallow and worn, and was very despondent. *Third*: The facility of the operation was manifest, and my bimanual examination revealed all the peculiarities of the case before making the section. *Fourth*: The danger of peritonitis, and the possibility of the later discharge of the fetal parts by protracted suppuration. And, further, I was acting in accordance with the practice of such eminent authorities as Lawson Tait and Olshausen, who counsel early interference in all pelvic tumors where the probabilities of success are good. It must be remembered, in any critique of the case, that it presents features utterly unlike any other abdominal pregnancy ever recorded as operated upon. Dr. Harris' remarks will show that the crisis is not always past when the fetus is killed by electricity.

DR. R. P. HARRIS said the case reported by Dr. Kelly had as clear a history of an extrauterine pregnancy as we ever find in the *very early period* of ectopic gestation, when it cannot be claimed that a positive diagnosis can be made. We can, however, very closely approximate it, as was done prior to this operation. The woman had been twice normally pregnant; she ceased to menstruate on July 16th, 1885, and there was no recurrence until November 17th, a period of four months. She considered herself pregnant, and, as the menstrual flow of November lasted a week, was excessive, and she passed, as she termed it, "two pieces of flesh," she thought she had aborted. Having seen her in the operation, and upon several occasions since, I learned from her that her menstrual periods usually lasted about three or three and a half days, but had increased to a week or thereabouts after the return in November.

The development of the breast; the presence of colostrum in them; the discharge of the deciduæ; the detection of the spherical tumor connected to the right cornu uteri; the decrease of this in size after the decidual expulsion; and the prolongation of the menstrual periods, all pointed to the existence of a right Fallopian pregnancy and a dead fetus.

When the tumor was brought into view in the operation, it was seen to be of a reddish-blue color, which is common to fetal cysts, and about three inches in diameter. When opened after removal, the placenta was found at the top, and the cyst empty of amniotic fluid, which had been removed by absorption. The fetus was a male, five and three-quarter inches in length, and, to judge by its size, degree of cranial ossification, and mark of sex, it must have died near the end of the fourth month. Such a fetus, at the time of its death, must have occupied a cyst as large as a cocoanut. The loss of fluid in the cyst made it sufficiently flaccid to admit of its being drawn upon so as to form a pedicle for transfixion and ligation. Fortunately for the woman, the cyst retained its integrity, the fetus perished, and there was no peritonitis to produce adhesions; the operation was, therefore, as simple as an early ovariectomy, and no more dangerous.

There can be no question in my mind that, under all the peculiar

circumstances and advantages of this case, it was proper to remove the fetal cyst for the purposes of relieving the pain felt in it and of checking the menstrual loss. The question might be asked, Why operate in such a case more than in one where fetal death has been produced by the faradic current? I answer, that under the same peculiar sufferings and advantages the exsection might be called for. The after-history of the cases of faradic feticide has yet to be written. Thus far there has been no death, immediate or remote, but there have been attacks of peritonitis, and there may be other troubles from the dead fetus after a long period. Very little has been recorded of the ill effects produced by ectopic fetuses which have died in the second, third, and fourth months of tubal or abdominal gestation. We know that a fetus of the fourth month has been passed whole from the rectum, and that one still smaller has been vomited; but death has rarely taken place within an unruptured cyst in the second, third, and fourth months, and we therefore do not know by the past what may be likely to happen in some of the cases subjected to faradization. Thus far the method has much to recommend it, by its safety of application and by the present health of its subjects. Fetal death being followed by absorption of the amniotic fluid, there is no longer any danger of the cyst rupturing from tension, and the woman's life is saved.

The first to destroy a fetus by electro-magnetism in the United States was our fellow-member, Dr. Joshua G. Allen, who has now operated three times with success, and all of the women are still living. *Case 1*, 1869, and *Case 2*, 1870, were illegitimately impregnated, and both have since married. *Case 1* has remained childless; she continued well for two or three years, and then went to the Jefferson College Hospital, where she was supposed to have rheumatism, but as the pain was in the lower part of the abdomen, on the side corresponding with the seat of the fetal cyst, Dr. Allen attributes the attack of pain to the presence of the foreign body; the age of the fetus was computed at three months. In *Case 2*, the age was believed to be eight weeks, and the woman did well for a year or two, when she had an attack of peritonitis lasting about three weeks. She subsequently married, bore a female child, now ten or eleven years old; had a second attack of peritonitis about a year later, and four or five years later a third. Although severe, Dr. Allen did not regard the attacks as dangerous to life.

Dr. J. C. Reave's patient has had a probation of six years, and has no after-trouble to note.

Dr. C. L. Billington writes me that his patient has improved in health, and that, although the fetus was computed to have a three months' growth, "there was no tumor perceptible five or six months afterward."

Dr. Lusk's second operation was followed by a peritonitis which confined the patient to bed for two months. She is now near her maturity of pregnancy, and has had no trouble during gestation from the presence of the tubal sac.

Dr. Bache McE. Emmet's case never showed the slightest effect from the presence of the ectopic fetus up to the last report, about a year ago.

Dr. Garrigues examined his patient about two years after the operation which was performed upon a fetus of "barely two months," and the "tumor to the right of the uterus had entirely

disappeared." She had no longer any orgasm in sexual intercourse.

Dr. P. F. Mundé reports that, at the end of two years, his patient remains perfectly well.

In her menstruation, which was in progress when I last saw the patient of Dr. Kelly, the loss was restored to its normal moderation, and she was free from pain.

DR. BAER spoke of a case of extrauterine fetation which had gone to full term, and in which laparotomy was performed thirteen months after the death of the fetus. The mother had shown great loss of vitality, and the tumor felt loose in the abdominal cavity, and promised to be easy of removal; but when the abdomen was opened, adhesions were found so numerous and strong that removal would not be safe. The opening in the sac was stitched to the abdominal wound. The temperature did not rise, and there was full recovery. This was an instance of tubal pregnancy carried to full term.

DR. PARISH said we would find in the large majority of these cases that, at an early period, adhesions would be slight and removal easy. Operation after rupture of the cyst is not complicated by adhesions, except those formed by the placenta, which are so vascular as to defy separation, and constitute the great danger. Prior to the fourth month, before such adhesions are formed, it is safe and easy to operate. It is a favorable time to operate after the death of the fetus, because the maternal tissues lose the extreme vulnerability that exists during the life of the child.

DR. LONGAKER had been surprised at the absence of peritonitis after so much pain and tenderness.

DR. KELLY remarked that the pain had always been non-febrile; there had been no elevation of temperature or pulse.

There had, in this case, been no sense of contraction in handling the tumor as has been noticed in hydro-salpinx.

L. Tait had heard the uterine souffle in one case at his first examination, but could not find it again. Dr. Kelly has a case of extrauterine fetation on hand now, and is waiting for the death of the fetus, when he will operate. Ohlshausen has formulated the rule that "any abdominal tumor as large as the fist should be removed."

TRANSACTIONS OF THE GYNECOLOGICAL SOCIETY OF CHICAGO.

Regular Meeting, Friday, April 23d, 1886.

The President, DANIEL T. NELSON, M.D., in the Chair.

DR. CHARLES CALDWELL read a

REPORT OF A CASE OF HERNIA OF THE UMBILICAL CORD.

I was called August 10th, 1885, at 6 P.M., to attend Mrs. C., who was in labor with her ninth child.

Labor was normal. When the child, a female, was expelled, I discovered she had an umbilical hernia as large as a small orange,

and of similar shape. The circumference in the largest place—the centre—was about ten inches. The diameter of the orifice or abdominal opening, two inches. The sac was translucent, and the viscera—intestines—could be distinctly seen when the child cried and forced them out. The umbilical vessels were on the left side of the sac. The skin was projected from the abdomen on to the side of the sac at its base about half an inch.

Pathology.—Ectopia of some or all of the abdominal viscera at the point of insertion of the umbilical cord is usually due to an arrest of development of the abdominal parietes, and failure of the intestines originally projecting into the vitelline duct to return into the abdominal cavity. Simpson thinks it may sometimes be traced to peritonitis. Cleft abdominal walls, a similar arrest of development to that of cleft sternum, may exist in the muscular structure of the front of the abdomen, which may expose the whole contents of the abdomen, or the central line of the abdomen may be weak from deficiency of muscular structure.

If the orifice is very small, it can be treated successfully by a simple compress and adhesive strips. But if large, nothing except a plastic operation is indicated.

The coverings of the hernial sac are, from without inwards (a) amnion, (b) peritoneum.

Treatment.—After examining the sac thoroughly, I was convinced that nothing but surgical interference could save the child's life. I called our President and Dr. Jaggard by telephone, but both were too busy to assist me that night. They both recommended a cork compress held in position by adhesive strips, evidently thinking it an ordinary case of umbilical hernia. I decided not to operate until the next day, and enveloped the sac with absorbent cotton, retaining it in place with a loose band.

The next afternoon, Drs. Dudley and Jaggard met me in consultation. After examining the little patient, they decided with me that nothing but surgical interference would give her any chance of life, and kindly assisted me in the operation. It was decided not to give an anesthetic. Dr. Jaggard, seizing the sac, gently forced its contents, the viscera, back into the abdominal cavity, and I ligated it as close to the abdomen as possible, but did not draw the ligature perfectly tight. At the suggestion of Dr. Dudley, the sac was now opened, to be sure no portion or loop of the bowel was confined by the ligature. The peritoneum being opened, the index finger was passed into the abdominal cavity to hold back the bowel and protect it from the points of the hare-lip pins, which were passed at right angles to each other through the narrow piece of skin at the base of the sac. Two more ligatures, carbolized silk, were applied beneath the pins, and were drawn tight enough to close the opening. The outer layer of the sac was trimmed off, leaving a stump one and a half inches long. Dr. Dudley passed a gathering suture round the stump, sealing it

more tightly. This completed the operation, after which the stump was dressed with iodoform, a narrow strip of carbolyzed gauze passed beneath the pins, several layers of absorbent cotton, and a roller bandage. The child was restless that night, crying several times, but slept well the next day. I dressed the stump every day, reapplying a similar dressing. The bowels moved naturally until the 16th, when I discovered some fecal matter on the dressing as I removed it.

On the 17th, all the feces passed through the fistulous opening. The members of the family were very much alarmed, and wished me to close the opening at once. I assured them that nature would close it without any further surgical interference. For four days all the feces passed by the fistulous opening, but on the fifth there was a little stain on the diaper. On the sixth more, and on the seventh all the feces passed *per rectum*.

The family were happy once more, for the fistula had closed. There were no symptoms of peritonitis at any time. Neither vomiting, tympanites nor pain. The patient did not cry more than babies generally do, but nursed and slept nicely, requiring no unusual care.

The bowel, at point of perforation, was here firmly bound to the abdominal walls by lymph, which was thrown out. From this time the wound healed very rapidly. The end of the stump sloughed, leaving it quite short. The small intestine was probably the one perforated, for there was no odor to the discharges.

What caused the rupture of the bowel to take place I am unable to say. Probably, either a portion of the bowel was caught, and became strangulated by the ligature, or it was punctured by a pin, as that instrument was inserted.

Dr. Dudley says the surgical operation was certainly a laparotomy, for the abdominal cavity was opened and the index finger introduced.

DR. DE LASKIE MILLER said he had seen numerous cases of hernia, but thought this specimen was possibly more extreme than any he had seen.

THE PRESIDENT asked Dr. Miller in how large a hernia he would deem operative procedure, of a plastic nature, necessary.

DR. MILLER did not think it possible to state, by actual measurement; so much depends upon the condition of the tissues surrounding the opening that the absolute diameter of the opening would not be the governing principle. If the borders of the opening are of considerable thickness and the tissues well developed, it would be possible to reduce and probably cure a hernia independently of any cutting operation. He inferred that in the case described in the paper there was a deficiency of all the tissues except the peritoneum and the amnion, the skin projecting upon the sac one-half inch around the opening. He thought there was another explanation possible in this case, viz., that the duct leading from the umbilical vesicle remained or became patulous and the fecal matter passed out through that; for the duct can be seen in the

cord, even at delivery, in some cases. He inquired as to the cause of the arrest of development of the abdominal parietes in such a case.

DR. EDWARD WARREN SAWYER thought it not a very unusual thing to find a prolongation of the intestine into the cord. He once came very near tying the cord including a loop of intestine, so near that he had since observed the rule to always satisfy himself, by careful manipulation of the cord, that it contained no loop of intestine, and this routine practice had revealed the fact that very often a suspicious enlargement of the cord is found, sometimes extending three-fourths of an inch above the level of the abdominal wall, and the intestine, or portion of the omentum, is not infrequently projected into this *cul-de-sac*. He thought in the majority of cases nature would take care of the condition without any attention from the attendant. He had never seen so large a hernia as that described by Dr. Caldwell, and did not understand why it should have assumed a spherical shape; he could understand how it might be pyriform or sausage-shaped, and extend an inch or two into the cord, but how the cord could suddenly dilate and form a large globe, and this globe be followed with the contents of the abdomen, it was difficult to comprehend.

DR. SAWYER inquired what there was about this case that enabled the physicians to decide so quickly that an operation must be resorted to in order to save the child's life. To him an operation would have been a second consideration. Dr. Jaggard evidently reduced the hernia without difficulty, and having reduced it, it seemed to Dr. Sawyer that a well-applied bandage would have secured it. The operation was brilliant and creditable, but he thought an operation should have been considered after the attendants had failed utterly to secure the hernia within the cavity by a well-applied bandage.

It was stated in reply to questions that the child presented no symptoms; the hernia was reduced by Dr. Jaggard; the tumor was about the size and shape of an orange; the operation was performed the day after birth; there was no evidence of strangulation of the gut.

DR. SAWYER said that Dr. Caldwell had assured him that he was certain that in passing the hare-lip pins no part of the intestine was included, and the finger was introduced to push everything beyond the reach of the pin. Dr. Sawyer thought, however, that the centrifugal pressure must have been considerable, and the contact quite severe. He thought it strange that none of the fecal matter escaped into the peritoneal cavity, although there were adhesions between the intestine and abdominal parietes.

THE PRESIDENT.—Of course every case must be decided on its merits, but might we not hope for the closure of an opening of an inch and a half in diameter, provided the tissues are well developed around it, without a cutting operation? It would seem possible to close as large an opening as in the case under discussion by simple adhesive strips. He had seen one case that reminded him of this: the opening was not nearly as large, it did not exceed three-fourths of an inch in diameter, and the length of the sac was much longer than the opening. Into this sac there was projected a solid body. As the child afterwards died, he found it was the *lobus Spigelii* of the liver. It was so conical, or heart-shaped, that the anatomy could not be made out until after death. The instruction to him in that case was the importance of not includ-

ing any of the abdominal tissues by the ligature that might be passed around. He was careful to pass the ligature around the umbilical cord so as not to include the sac, but it might readily have been passed close to the abdomen and made to include the solid tissue, which, as he afterwards found, was a portion of the liver. The child died, not from the hernia, but from some want of development which he was unable to find out, no careful *post-mortem* examination being allowed, but he believed there was lack of fetal development necessary to life. The child was fairly well developed and seemed as if it should have lived, so far as this slight defect was concerned.

THE PRESIDENT asked if any one could suggest the reason for the fecal fistula. It seemed to him that in this case it was the result of inflammation caused either by pressure against the pins or the ligature; if the intestinal wall had been punctured by the pins, the physician would have seen evidences of it earlier.

DR. J. H. ETHERIDGE inquired whether this was not the youngest laparotomy on record. He wished to know if it would not be possible to crowd back the viscera and then hold them in place with adhesive strips.

DR. T. D. FITCH said that he had not had experience with congenital hernia at birth, but had seen it occur within twenty-four hours afterward, and had successfully closed an opening an inch or an inch and a quarter in diameter by the ordinary method, viz., compress and bandage.

Dr. Fitch had had very peculiar success in the treatment of infantile umbilical hernia by the ordinary means, and he should hesitate very long about an operation until he had tried all the ordinary means. His method of treatment differed somewhat from the ordinary treatment, however, in the adoption of an elastic web bandage instead of the ordinary bandage or adhesive plaster, and he thought it far superior to an inelastic bandage, as it gave the child room for an accumulation of intestinal gases, which very often become painful when a fixed bandage is placed around the abdomen. He first applied a hard compress, like a button-mould (plano-convex), to cover the opening. This should be large enough to extend three-eighths of an inch beyond the margin of the opening, and should be covered with one or two thicknesses of fine soft muslin. After returning the protruded substance *perfectly*, the compress should be fixed in position by short adhesive strips, then apply the elastic webbing around the body of the child tolerably tight, and let each turn of the bandage lap the previous one half its width, making a sufficient number of turns to cover six or eight inches of the abdominal surface vertically. He would leave this on undisturbed—unless the child became restless, or exhibited some indication of injury—for a month or longer before removing it. He had never found that the skin suffered from the confinement of the perspiration.

Another advantage was that, the elastic webbing being rough and the laps of the bandage holding each other, it always stayed in place, and held the button firmly, and so secured the opening against any possibility of protrusion. He had used this method successfully for about thirty years. He had a case at Waukegan which occurred twenty-four hours after birth; did not attend the mother at the birth, but was called to treat the hernia, which was reducible, and would gurgle in and out at almost every respiration, bulging out as large as an English walnut. He visited the

child only once, and told the parents to remove the bandage at the end of four weeks, when the opening was found entirely closed. The child is now nine or ten years old, perfectly healthy, and always has been.

DR. CHARLES CALDWELL.—The Fellows of the Society have evidently misunderstood the nature of the case described in the paper. I am sorry that such obscure and confused conceptions have been conveyed. The case was one of hernia of the umbilical cord, consisting in "the escape from the abdomen, at the point of insertion of the cord," of some of the fetal abdominal viscera, and was due either "to arrested embryonic development, preventing the complete closure of the abdominal cavity, or failure of the fetal intestines, originally situated outside the abdomen, to enter the same" (Lusk). The remarks of most of the Fellows are accordingly irrelevant.

As no one who witnessed the operation was present at the discussion of my paper, several questions were unanswered.

Dr. Sawyer wished to know why we decided so quickly that surgical interference was necessary to save the child's life?

The consultation was held about twenty hours after the birth of the child, and at that time the outer layer of the sac, the amnion, was dark and gangrenous in several spots. Its nutrition was cut off when the cord, with its umbilical vessels, was ligated, and it would have sloughed off in a few days, leaving the viscera covered by the peritoneum only. We were of the opinion that such a condition as then existed would be followed by general peritonitis and death without some surgical operation.

Dr. Byford wished to know the literature of the subject. I have been able to find but one case similar to mine.

Thomas Bryant, in the last edition of his "Surgery," mentions the only case he ever saw and his treatment. In June, 1876, a child, one day old, was brought to him with hernia of the cord. The sac was translucent, the size of a small egg, and contained the cecum and vermiform appendix. He pressed back the bowel with the thumb and forefinger, stitched up the cord at the umbilical orifice with deep sutures and ligatured the cord itself at the apex of the congenital hernial sac.

Recovery was complete without a single bad symptom. He recommends his operation in all similar cases, evidently considering it the only treatment indicated. So we were supported by the best of authority, in operating instead of trying to apply a compress. Should I ever meet with a similar case, I would perform an operation different from either Bryant's or mine.

I would first remove the amniotic layer of the sac, if it could be separated from the peritoneum, excising or amputating it at its junction with the skin, return the viscera and peritoneal sac to the abdominal cavity, and close the abdominal opening as in a case of exploratory incision or simple laparotomy. Either incising the peritoneal sac to better protect the bowels from needle points, or stitch to the bottom of the wound by deep sutures, and support the sutures by adhesive strips around the abdomen.

I would recommend this operation after observing how quickly the amnion sloughed away. It might just as well be removed at once if it can be easily separated from the peritoneum.

DR. JOHN BARTLETT made remarks upon and exhibited specimens of

(1) A CASE OF DERMOID CYST COMPLICATING LABOR.

(2) A CASE OF PLACENTA PREVIA IN WHICH THE PLACENTA WAS EXPANDED OVER THE ENTIRE OVUM.

Dr. Bartlett said, "I have recently seen two interesting cases of labor, and I wish to present a specimen obtained at each of these to the Society.

The first was a case in which I was called to assist Dr. John S. Clark. The patient, a primipara, about 30 years old, had been in labor under the care of a midwife about twenty-four hours. The head was making no progress, and exhaustion was approaching; about one ounce of fluid extract of ergot had been given. Dr. Clark found the head lying with the antero-posterior diameter corresponding with the conjugate, the parietal eminences had passed the brim. He applied an old style, high curve, Bedford's forceps, but found his efforts unavailing in causing the head to advance. Dr. Bartlett then attached his direct traction handle, and descent of the head was effected. After delivery of the head there was difficulty in delivering the shoulders. When an effort at extrusion was made, there appeared in the perineal region, between the vulva and tuberosity of the ischium, a jutting outward of the tissues in the form of a tumor. It seemed as if an obstructing body was wedged in front of the shoulders. Counter-pressure was made upon the protrusion, and the delivery was completed. Following the child came a tumor the shape and size of a large pear, presenting at the small extremity a pedicle. It was a thin dermoid cyst containing a mass of fatty substance, imbedding numberless long intertwining hairs. The tumor could not be felt during labor, and a careful inspection showed that it had not been attached to the child. It was probably attached to the uterine surface, resting between the head and the shoulders. Possibly it was the cause of the dystocia in diverting the head from an oblique diameter of the brim. Depression of the vital powers with high fever set in soon after delivery, resulting in death within four days. Dr. Clark's examinations *post partum* detected no injuries beyond laceration of the perineum. The child was still-born.

The second case was one of *placenta previa*.

Mrs. N. had had several children, and, within eighteen months past, two miscarriages. In January last, when she was nearly four months advanced in pregnancy, I was called because of serious hemorrhage. The uterus presented to the touch nothing peculiar, there was none of that extra development of the lower segment of the organ which is supposed by some to indicate *placenta previa*. The tampon was applied, opiates given, rest enjoined, and the bleeding ceased. At four and one-half months the hemorrhage recurred. Under treatment, the bleeding was in some measure controlled. For the two following months it was continuous, generally moderate, occasionally quite severe, at all

times, as she declared, fourfold greater than the flow of menstruation. I then deemed it best at six and one-half months to induce labor, but Dr. John S. Clark, in consideration of the probable non-viability of the child, advised further delay. The flow, however, was so great that the tampon was applied, and in forty-eight hours thereafter labor began.

Upon removing the plug, the os was found thin, softened, and three-quarters of an inch in diameter. At about the fourth hour of labor, the os rather suddenly enlarged to a diameter of one and a half inches, and the hemorrhage became profuse. The half hand was introduced into the vagina, and the placenta stripped off over an area the radius of which was three-fourths the length of the middle finger. With the bullet forceps, used by me with advantage in such cases, the membranes were torn, and the opening so made was freely enlarged by the finger. Hemorrhage immediately ceased, and labor became more active, so that in the course of an hour the child was delivered, breech first. Several inspirations were made by the fetus, a fact of interest in view of the peculiarities of the placenta, which I here present. In order to display the specimen to better advantage I have filled the cavity of the membranes with horse hair, and sewed up the aperture. It will be observed that the main body of the placenta, the normal placental mass, is not *previa*, but attached near the fundus, and that the rare anomaly is here presented of a continuous placental tissue spreading over the entire ovum. Observe that the extra, adventitious portion, continuous with the normal placental edges, and everywhere enveloping the membranes, is comparatively thin; in the present state not thicker than one-eighth or three-sixteenths of an inch."

DR. W. H. BYFORD spoke of a specimen he exhibited some time ago at the Chicago Medical Society—a dermoid cyst which was expelled from the vagina. It was sent to him by Dr. White, of Bloomington, who said the tumor was situated in the anterior wall of the vagina, and as the child was delivered the pressure of its head pushed the tumor out before it. He thought that in the case under discussion the tumor may have been developed in the vaginal walls. The localities of these growths are not uniform, and we find dermoid cysts situated in the vaginal walls. Dr. Bartlett said in answer to a question from Dr. Byford, that the existence of the cyst was not discovered before but during labor; that it was beyond the head, and may have been an ovarian tumor; it was not outside the vagina, but between the head and shoulders. Dr. Byford thought it almost certainly a dermoid tumor of the vagina. He thought that these cases were almost always found in old or multiparous patients.

With reference to Dr. Bartlett's second case, he asked if the hemorrhage ceased before rupturing the membranes, or if the whole operation was done at once. Barnes claims that if the membranes are separated over the cervical zone the hemorrhage will stop; that there will be sufficient retraction of the cervical zone to close up the mouths of the vessels. He thought it a point of

interest to know whether or not that would have stopped the hemorrhage, and whether it would not have been sufficient. He thought in that case one is not called upon to leave the membranes intact.

DR. DE LASKIE MILLER said that the effect of endometritis is usually to increase the area of the development of the placenta, and he had not infrequently seen cases of placenta of the usual size, on which projections appear in different parts in the interior of the uterus, partially connected or entirely disconnected. He asked whether a case of endometritis might not allow the villi of the chorion to form these *placentæ succenturiatæ*. He was inclined to think that that condition would encourage it. Another fact in the history of the case that would perhaps justify this theory was the several miscarriages the patient had experienced before this pregnancy.

DR. T. D. FITCH said that in thirty-five years of practice, in which he had probably attended more than a thousand cases, he had seen but one case in which he suspected *placenta previa*. He was sometimes ashamed to make the statement, for fear his experience had been from lack of close observation, or inability to recognize a case, but he had seen only one, and did not know that that was really a case of *placenta previa*. He did not detect it by manual examination; the symptoms were altogether subjective. It was a seven months' labor and the child lived. There was a good deal of hemorrhage. He had no difficulty with the labor, except from the hemorrhage, and that did not prove serious.

THE PRESIDENT asked if any one could suggest the origin of the tumor? Was it a twin or a dermoid thrown off from the fetus, or was it from the mother? He asked Dr. Bartlett if it was a part of the child, and was answered that after a careful examination no place was found where it might have been attached. It was perfectly loose in the vagina; probably the pedicle had been ruptured.

DR. EDWARD WARREN SAWYER thought, with reference to Dr. Bartlett's second case, that the case had several very interesting features, and the subject itself was full of interest. He referred to a conversation earlier in the evening, in which Dr. Byford had said that he had been in practice many years before seeing a case of *placenta previa*, and the first case he ever saw was the first of three in one night. It had happened to Dr. Sawyer to see a number of cases of *placenta previa*. He had had two fatal cases and had learned something of early diagnosis, which had been profitable to him since, and he thought of it in the obscurity of the diagnosis in Dr. Bartlett's case. He said that in one of his cases, after reading of the ease with which one could auscultate the lower segment of the uterus under these circumstances, he prolonged his stethoscope with a long flexible tube, put a cup on the end of it and had no trouble in introducing it into the woman's vagina. He had repeatedly detected portions of the cervical attachment of the placenta by this mode of auscultation. The remark made by Dr. Byford had received some confirmation in his experience, viz., that many cases of *placenta previa* aborted early, and that he believed this to be a frequent cause of early abortion. Spiegelberg says that *placenta previa* is of very frequent occurrence. An interesting fact in connection with Dr. Bartlett's case was the alarming amount of hemorrhage which took place from the placenta and placental attachment away from the main part of the

placenta, or in other words, there were sinuses in the cervical zone of this uterus which were covered only by the velamentous portion of the placenta, sinuses large enough to bleed, and exsanguinate the woman. Dr. Sawyer spoke of a case to which a former pupil of his was called. A midwife summoned him at midnight to see a woman who was bleeding to death. As he entered the room she handed the doctor a cord (the child was delivered), and the placental end of the cord was a disc about as large as a butter dish. That fleshy mass had been pulled directly from the placenta and the woman was actually bleeding to death. This little mass was very thin, and he was at a loss to understand to what part of the placenta it could have been attached. He delivered the woman completely and she was saved. He found a hole through the placenta corresponding to the disc which had been pulled out, it was in the thin portion of the placenta, and the bleeding was somewhat alarming. Referring to the question that Dr. W. H. Byford asked, concerning the mode of treatment advocated by Barnes, Dr. Sawyer said he was full of the idea, and the feasibility of it was accepted by him in his first reading of Barnes' work, and he tried to adopt it in practice, but he hoped no one would ever get himself into such a dilemma, as he was sure he lost his patient by that cause. Theoretically you may detach enough of the placenta to save the woman from hemorrhage. The so-called cervical zone is not to be measured by the finger; he did not think it had any definite boundaries; it might sometimes extend half-way to the fundus on one side of the uterus, and he thought the more we detach the more dangerous it may become. He felt quite confident that the poor woman who was the victim of the theory of Barnes, would not be dead to-day if he had adopted a more rational treatment.

There was one point in connection with the causation of *placenta previa* that excited a great deal of interest in his mind. He had seen two cases strongly confirmatory of the movement of the ovum in the early days of its sojourn in the uterus. One case was also seen by the President, but he had never spoken to him of the theory of which the examination of the placenta had been the origin. Dr. Sawyer had written to several prominent obstetricians of this country, asking if they knew anything in literature which would answer the question: Can the ovum once attached to the decidua of the uterus become detached and again attach itself to the lower part of the uterus and go on through pregnancy? In other words, can the ovum detach itself, drop from the top of the uterus to the bottom, and re-attach itself in the cervical region? Many learned men replied that they had never heard of such a possibility. But Dr. Harris, of Philadelphia, hit upon this happy expression: "Rotation of the ovum." He had seen two cases in which he thought the ovum rotated in the earliest days of pregnancy: not a complete rotation, but an almost complete detachment and rolling, or rotating, downward and there attaching itself. The second case was in the practice of Dr. Doering. The subsequent examination of the placenta showed a case of partial *placenta previa*. The umbilical cord springs from the margin of the placenta in both instances; and his theory was that in the first case, which was that of a young primipara, the placenta was fixed normally at the fundus and the cord sprang from the middle; there was a history of a sudden jar of the body when she was about three weeks pregnant; she jumped from a high wagon and im-

mediately flowed a little, and when she came to be delivered she had a complete *placenta previa*. The examination of the placenta showed that the cord was attached to one margin, showing that it had rolled down and formed a new attachment for the umbilical cord. When the placenta was at the fundus and the cord at the middle, by its rolling downward it placed the cord at the margin. He thought one of the most important causes of *placenta previa* is this rotation of the ovum very early in pregnancy; a rotation that may be caused by a sudden jar, and he thought the confirmation of it is in the unusual attachment of the cord.

DR. J. H. ETHERIDGE had had one case of a woman with *placenta previa* with twins. At about the fourth month the woman fell and struck the lower part of the abdomen against the top of a wash-tub; she had a little hemorrhage, and from that time till term she was always tender at that spot. Free hemorrhage took place and he was called to see her. The woman was delivered of a mature fetus, and of a child that was evidently arrested in development about the fourth month. The theory formed was that there was a partial detachment of the second placenta, the other child went on and developed regularly. The mother died in a few hours after delivery.

THE PRESIDENT wished to say a word about the theory of causation advanced by the Secretary, the idea of displacement or rotation of the ovum after implantation. It seemed to him that there was a more important cause, and in all the cases he had personally investigated, about four, there had apparently been good reason for the theory that disease of the uterine mucous membrane, inflammation and with an unusual pathological amount of secretion over its surface, is the cause of the implantation at the cervix instead of at the normal place, in the vicinity of the entrance to the Fallopian tube. From the quantity of the mucus the ovum glides down to the cervix and remains there, because the tissues are more healthy, perhaps. In two cases of *placenta previa* that he had knowledge of, pregnancy occurred some time after treatment, with a previous history of sterility, or of miscarriages, and possibly the mucous membrane nearest the cervix was in a more healthy condition than that near the Fallopian tubes, or possibly there was constriction of the internal os. It seemed to him there was good reason for the belief that if the mucous membrane at the fundus is not in a good condition to nourish the ovum and to hold it, it falls to the internal os and is there held, and there is a possible *placenta previa* at full term. He wished to know if in Dr. Etheridge's case there was any previous knowledge of uterine disease. Dr. Etheridge replied that there was none, the woman was a healthy Scotch woman.

DR. ETHERIDGE asked whether *placenta previa* was a common thing in animals.

DR. SAWYER replied that he had seen a mare throw off her placenta before she threw her colt, and in fact she died without throwing the colt. He said further that he believed cervical pregnancy is generally recognized as being secondary to another thrown off from the fundus; that being the case, why not a secondary attachment or lodgment of the ovum at the lower segment of the uterus, as well as in the cervix itself. He believed the majority of authorities to be against the idea of cervical pregnancy in the abstract, but he thought Dr. Bartlett considered it possible to conceive in the cervix.

THE PRESIDENT said there might be disease of the uterus, and then comes the question whether that is the sole cause, or one of the many causes. The question had been asked whether *placenta previa* is of frequent occurrence among prostitutes, women who might be supposed to be anxious not to become pregnant, and he thought it had been answered in the negative.

DR. SAWYER asked how it was, if the President's theory was correct and his observations had been confirmatory of it, that Spiegelberg could say that many primiparæ, young, healthy women, miscarry on account of *placenta previa*? He thought that pregnancy itself was infrequent among prostitutes.

DR. H. P. NEWMAN mentioned a rare case which had lately come to his notice, namely, a complete central implantation of the placenta, in which no hemorrhage had occurred throughout the entire pregnancy until the very last days of gestation.

Ten days prior to delivery at full term, there was the first appearance of bleeding, easily checked by assuming the recumbent posture; and it was not until five days later that the hemorrhage became at all abundant.

Delivery took place on Tuesday, April 13th. On the preceding Friday, Dr. R. N. Hall was called, and diagnosed *placenta previa*, using the tampon.

He first saw the case in consultation with Dr. Hall on Tuesday morning. The repeated tamponing, and use of the colpeurynter the night before, had had the effect of gradually bringing on labor pains, and softening and dilating the cervix to the diameter of nearly two inches. A digital examination revealed nothing but a thick placental surface upon all sides, covering, as we afterwards found, the entire lower segment of the uterus. By bimanual palpation, we made out a shoulder presentation (left dorso-anterior), and decided on immediate delivery.

Every preparation being made to control hemorrhage, the placenta was carefully separated from its uterine attachments upon the left side, and the right hand carried upward between the membranes and uterine walls. When the feet were reached, the sac was ruptured, podalic version performed, and the child extracted. Meanwhile, Dr. Hall had followed up the evacuation of the uterus by firm bimanual pressure upon the uterus through the abdominal walls. The placenta, which was a large one and pretty evenly distributed upon all sides, was separated from its remaining attachments, and removed as speedily as possible. The entire procedure was accomplished in less than five minutes, and the hemorrhage was not excessive, considering the gravity of the situation.

The child was saved, and notwithstanding the amount of blood lost by the mother at and previous to delivery, she convalesced rapidly, and is now up and about. She is a strong, healthy woman of middle age, has borne seven children, and has had three miscarriages. With the exception of rapid child-bearing, a laceration of cervix, and one faulty presentation necessitating version, her former history has no particular interest.

DR. BARTLETT said, in closing the discussion, that in a paper written years ago he had expressed an opinion that *placenta previa* was one of the simplest of the *errores loci* of the ovum; that the true site of the placenta, when *previa*, was the cavity of the cervix, that is, below the *os internum* or the so-called ring of Bandl. Dr. Bartlett took occasion to emphasize his conviction of the truth of the position taken by him in the paper referred to. In the case

now before the Society corroboration of his idea might be found. An ovum resting in the comparatively large cavity of the uterus would take root on the surface to which it chanced to be more nearly apposed. An ovum arrested in the much more circumscribed cavity of the neck might secure a more general and, in some rare instances, a complete attachment to surrounding uterine tissues.

TRANSACTIONS OF THE OBSTETRICAL AND GYNECOLOGICAL SOCIETY OF WASHINGTON.

Stated Meeting, February 19th, 1886.

DR. A. F. A. KING, *President, in the Chair.*

DR. H. M. CUTTS read a paper on

THE NECESSITY OF PREPARATORY TREATMENT FOR CHILDBED.¹

DR. G. N. ACKER, in discussing the paper, said the constipation of pregnant women was best overcome by compound licorice powder. He thought the urine should be examined every few weeks during pregnancy. Marriage should take place as soon as the menstrual function became thoroughly established, except in cases where syphilis or gout was present. In this view he was in accord with the opinions formerly expressed by the President of the Society, Dr. King.

He thought the antiseptic precautions now employed in the preparation of the lying-in room should have been dwelt upon with more emphasis by the essayist. He agreed that in all cases there should be thorough preparation for all emergencies.

THE PRESIDENT said that, some years ago, he had made the remark attributed to him by Dr. Acker, but with some reservations and conditions which, while not altering the meaning of his opinions, would yet prevent it from being too sweeping. He would include all these modifying conditions under the one word *precocity*. If the girl was precocious, physically, mentally, and morally; if she had been living in that atmosphere of cities and fashion which more than all else conduces, by its literature, its drama, and its social life, to excessive nutrition and precocious development of the reproductive function: her body, mind, and moral sense would be in a condition at once premature and exotic, and she would be eminently unfitted for early marriage. He suggested that, at the termination of a case of difficult labor, the accoucheur should make careful measurements of the child's head, and give them, with measurements of the pelvis, to the mother. Valuable information would thus be furnished to the physician who might be called to attend in future confinements.

DR. C. E. HAGNER believed that, after the urine had been examined often enough in the pregnant woman to reveal the condition

¹ See original articles in this number.

of the kidneys, further examinations were unnecessary unless symptoms referable to the kidneys should arise. He expressed disbelief in the practicability of pelvic measurements, except in pronounced cases. In a practice of sixteen years he had found, before delivery, abnormality in but one case that he was able to recognize.

DR. H. D. FRY observed that the mortality of childbed is less now than ever before, which he attributed to the fact that preparatory treatment is more generally employed. This is not only advisable, but absolutely necessary. He emphasized the importance of watchful supervision during the child-bearing period. Early examination of the urine is important, and, in his practice, began at the sixth month and was repeated at intervals of two weeks until parturition. In the treatment of constipation, he is accustomed to employ a combination of aloes, nux vomica, and belladonna. In view of the fact that the fetal presentations change spontaneously, he thought examinations should be repeated, in order that the obstetrician might be prepared to render aid if difficulties arise, and cited two cases occurring in his practice bearing on the point. The necessity for the pregnant woman to secure necessary sleep was a matter too often overlooked.

DR. S. C. BUSEY said that, so far as the question of early marriage is concerned, he believed that precocity (as evidenced especially by early menstruation) was unfavorable to the child-bearing and post-child-bearing periods. Nigri concludes, from a study of twelve hundred labors, that the minimum development of offspring is found among those of primiparæ who menstruated before attaining the age of 13 years. Concerning constipation, which is more common in primiparæ than in multiparæ, he said this was a habit of body originating in many women from neglect, and fostered by all sorts of excuses and expedients. To one of these, sitting on the foot, he especially referred, and although unwilling to venture a positive opinion, nevertheless he was convinced that the pressure of the heel against the anus can and often does postpone the act of defecation. In many cases the compound licorice powder acted well, yet he followed no routine plan in the treatment of constipation.

He cited a case in which labor was absolutely prevented by an accumulation of feces in the rectum so large as to fill the pelvis, push the cervix above the symphysis, and produce marked vesical disturbance. Chloroform was administered, the mass removed, and labor was speedily terminated. To diet, as a preventive of constipation, and to exercise, he would only allude. The examination of the urine in primiparæ should be made most frequently between the third and fifth months. In a case seen by him about two years ago, albumin was found in the urine during the second month. In Dr. Busey's absence, this case was left to the care of a physician who had been advised of what had been discovered, and of the necessity of frequent examinations, but no subsequent examination of the urine was made, and on his return Dr. Busey found that his patient had had puerperal convulsions, and narrowly escaped with her life. Statistics recently furnished by a German investigator show that syphilis and uremia cause the largest number of deaths of fetuses and premature births. The speaker, some years ago, had examined the morbid conditions of the urine in pregnancy, and their relation to certain puerperal affections, and had reached the following conclusions: 1st, that

in 91 per cent of all cases of puerperal convulsions the cause lies in uremia (90 per cent is the proportion usually given); 2d, that albumin is found in the urine of 30 per cent of all primiparæ, of which number 25 per cent had convulsions, and 33 per cent of those having convulsions died. Since then matters have greatly improved; the treatment was more effective, and mortality diminished.

DR. FRY had found albumin in only three out of seventy-five cases. Two of these were primiparæ, in one of whom albumin disappeared as pregnancy advanced. The third was a multipara in whom albumin was reduced from ten per cent to two per cent. There were no uremic manifestations.

THE PRESIDENT said no allusion had been made to the correction of fetal malpresentations by external version before the onset of labor. This manœuvre he had twice successfully accomplished, in each case several weeks before delivery. He would also emphasize the importance of acquiring in multiparæ a knowledge of the number and character of all previous labors. In multiparæ the uterine walls are constantly getting thinner, and the danger of post-partum hemorrhage and rupture becoming greater.

DR. BUSEY anticipated the occurrence of post-partum hemorrhage by having in the house, weeks before the time of confinement, everything necessary to meet it.

THE PRESIDENT alluded to a case reported by a southern practitioner, in which the uterus was said to have been ruptured in seven successive labors, and in each the child was successfully delivered by internal version from the abdominal cavity. He supposed that the uterus, having been once ruptured and united by a thin cicatrix, ruptured again repeatedly at the same point without material hemorrhage taking place.

TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF CINCINNATI.

Meeting of April 8th, 1886.

DR. THADDEUS A. REAMY read a paper on a

CASE OF FIBROID POLYPUS OF THE UTERUS, WITH REMARKS ON SOME POINTS IN ETIOLOGY.¹

DR. PALMER said he had listened with pleasure to the interesting report. He thought the reason why the tumor had remained in the vagina so long without disintegrating was owing to its active vascular supply. On the other hand, the small size of the pedicle, and its peculiar cervical attachment, the tumor itself being intra-vaginal, explained the freedom from uterine hemorrhage. It is rare for fibroids of this size to remain so long without more dis-

¹ See original articles in this number.

turbance, although the history of this case in this regard was not unique. The essayists had defined some of the diagnostic points in the differentiation of intra-vaginal fibroids from chronic inversion of the uterus. The sensitiveness of the latter and the non-sensitiveness of the former were important points when other things seemed obscure. Hence it is well to examine at least once thoroughly, without anesthesia. No doubt there was much value in the sign spoken of—mobility by rotation of fibroids, and inability to rotate the inverted uterus. But not in all cases could this sign be depended upon. A fibroid with a short, thick, broad pedicle, may be as fixed at its upper attachment as an inverted uterus. The author had written very fully and satisfactorily concerning one of the main causes in the etiology of uterine fibroids. Little is known positively, and there is much room for speculation. Age was an important factor; yet while these growths were comparatively uncommon in young women, and while they were present much more frequently after thirty, and became more and more frequent for years after that period, still they became less frequent as the climacteric period approaches, and often shrank after it. So that it is not so much age itself as it is certain conditions of the uterus—changes in the circulation—which predispose to the formation of these growths. A study of the clinical history and morbid anatomy of chronic metritis, so-called, illustrates this. The underlying feature of chronic metritis is congestion or hyperemia. This leads to the hyperplasia, which, although largely composed of connective tissue, may be also of muscular tissue. All conditions of chronic hyperemia of the uterus, brought about from whatever cause, no doubt predispose to the formation of fibroids—a growth of connective tissue; or fibro-myoma—a growth of connective and muscular tissue. A fibroid is, then, a growth, the structure of which is homologous to the normal tissues of the uterus. It would have been interesting if the author of the paper had extended his inquiry still further in the etiology of these tumors—for instance, given us some facts or speculations as to the influences of race. It is generally believed—a belief founded upon the experience of a great many physicians—that fibroids of the uterus are much more common in the negro race than among whites. As dietetic treatment has been found more or less successful in creating an absorption and shrinking of numerous large interstitial and extrauterine fibroid tumors, the inquiry may be raised: Is not the frequency of fibroids among the colored race more owing to their diet than any special peculiarity in the race itself? The negro race is comparatively exempt from uterine cancer. The same inquiry may be made with cancer, in view of the fact that the disease is not seemingly, but really, in all probability on an increase among civilized people.

Wild animals are exempt from cancer. Domesticated animals only have it. Habits of luxury, high living, and highly stimulating nitrogenous diet appear to favor the increase of cancer. At any rate, here is a field for a most interesting investigation: What influence has diet in promoting the development or predisposing to the formation of fibroids and cancers?

Since sterility, whether enforced or absolute, by causing local uterine congestions, predisposes to fibroids; since the colored people were more fertile than the whites, in that with them means to prevent pregnancy were rarely employed, and yet uterine fibroids

with them were much more common, it follows that either in the race peculiarity or their mode of life the real cause resides.

Pregnancy was a powerful stimulus to the growth of fibroids, but often after that they would shrink in size, because caught in the process of fatty degeneration during the involution period, like the uterine walls themselves.

DR. GUSTAVE ZINKE was of the opinion that the incongruity of statistics was due to the fact that not all cases are reported, and authors are not aware to what extent these tumors occur in various races and countries. The statistics are very contradictory; some say that sterility is first in the order of frequency; then married life with few children, and finally those who have given birth to an average number of children. Others again state precisely the reverse. The knowledge of the causes is, however, of less importance in these cases, because even if we were acquainted with them we could not lessen their frequency. What concerns us most is the diagnosis and treatment.

The first case of uterine fibrous polyp that came under the treatment of the speaker was nearly of the same size as the one reported by the essayist. This lady, 45 years of age, had had constant and profuse hemorrhage for five years before his first visit. She had been attended by several physicians, yet none of them had examined her, but had contented themselves with ordering styptics to be applied by the patient herself. It was probably the woman's own fault that she had been thus treated, because she refused to be examined. When consent was finally obtained, the speaker recognized the cause only when he introduced the finger and felt the tumor filling out the whole of the vagina. Its pedicle was very short, and an inch and a half in diameter; the tumor was directly in contact with the posterior lip of the cervix. She made a good recovery, and is now in perfect health.

The second patient was of the same age, and had eleven children, the last one being three years of age at the time of the operation. Her hemorrhages, too, had been profuse, and dated back four months. The tumor was the size of a small pear, and the pedicle no larger than a goose-quill.

The third case, a young woman 28 years of age, was complicated with pregnancy. She had had no children, but one miscarriage eighteen months previously. Pregnancy was not suspected at this time, because she had menstruated regularly. It became evident, however, from the nature of the discharges that a miscarriage was in progress, and an examination per vaginam revealed a tumor the size of a pigeon-egg within the cervix. The speaker then called in Dr. Palmer who, upon examination, thought he felt two tumors instead of one. He suggested removal of the same, but whilst manipulating, one of the growths came away. When, later on, he proceeded to remove the other, it proved to be the secundines of an ovum instead of a tumor, which it resembled.

The two points especially dwelt upon by the essayist—the first, absence of hemorrhage; the second, the possibility of rotating the tumor for differential diagnosis—had been sufficiently discussed. With reference to the first, he would beg to say that he fully agreed with those who believe that a slow and gradual dilatation of the cervix, no matter from what cause, may take place without hemorrhage, although it is seldom observed in these cases. The rotating of the tumor deserves to be remembered, though, as

already remarked, if the pedicle be large and short, rotation will not be accomplished to any extent.

DR. GILES S. MITCHELL said that for a tumor the size of the one exhibited to remain extruded in the vagina for more than two years without undergoing necrosis or causing hemorrhage was truly remarkable. Usually polypi cause hemorrhage until removed or expelled, and ordinarily give evidence of disintegration soon after becoming extrauterine. The muco-purulent discharge from these growths is often as fetid as that associated with malignant disease. Another remarkable feature of the case was the non-impairment of her health. She consulted the essayist, not for the relief of pain or dangerous hemorrhage, but simply on account of a rather profuse leucorrhea. In the vast majority of such cases, as the polypus becomes pediculated and is expelled from the womb, its blood-vessels are constricted and obliterated to such a degree that sooner or later necrosis ensues. In the case reported, however, although the pedicle was extremely slender, yet the blood supply was sufficiently abundant for the nourishment of the tumor, but not liberal enough to cause hemorrhage. Why this healthy equilibrium was maintained for so long a period is difficult of explanation. Concerning the etiology of uterine fibroids much has been written, but little has been definitely determined. Their formation is intimately associated with the development of the sexual system, since no case is recorded of their existence prior to puberty. The majority of them occur in women between the ages of thirty and forty years. Married women who are fruitful are most liable; married women who are sterile less liable, and virgins are least liable to their development. The speaker was aware that most authors reverse the order as above given and recognized race as an important factor in their causation. The white race is more prone to the development of ovarian disease, while negroes are oftener the victims of fibroid tumors. It is very rare to find a colored woman with an ovarian tumor.

DR. GUSTAVE ZINKE said the ground is now taken by recent authorities that these tumors are really not fibroid, but more or less muscular, which tissue forms the body of the growth; and for this reason they should be denominated myomata or fibromyomata.

TRANSACTIONS OF THE OBSTETRICAL AND GYNECOLOGICAL SOCIETY OF ST. LOUIS.

Stated Meeting, April 15th, 1886.

DR. MCPHEETERS, *President, in the Chair.*

DR. T. L. PAPIN presented to the Society

A PESSARY REMOVED FROM A WOMAN IN THE FOURTH MONTH OF
PREGNANCY,

by sawing out a segment and slipping it out of the parts, not, however, without lacerating the tissues somewhat. The patient, when 16 years of age, had caused prolapsus uteri by lifting a stove.

The womb was replaced, but unsuccessfully, and the patient married, with a complete procidentia. She has since borne three or four children, the womb being pushed back on all proper occasions. The patient has used a great variety of pessaries, and during her last pregnancy had procured the one presented, which is a modification of Babcock's, and introduced it herself. When Dr. Papin was called to see her, the cervix protruded through the ring, had become strangulated, and was already cold. Contrary to the expectations of her attendants, she did not miscarry after the removal of the pessary. The doctor did not think that it would have been possible to relieve the congestion, and return the cervix through the ring of the pessary before the segment had been removed.

DR. PAPIN inquired of Dr. Gehrung as to the advisability of using his pessary in a case in which he operated for bilateral laceration of the os uteri, and in which he succeeded in making a virginal os, but in which the retroversion still remained. He had found the case very difficult to treat on account of the extreme tenderness of the parts. The soreness was apparently retro-uterine; he had used many different kinds of pessaries, but the pain occasioned by their use necessitated removal.

DR. GEHRUNG thought the ordinary retroversion pessary, modified and adapted to the case, should be used to retain the uterus in position after it had been replaced, and that the soreness was probably due to some enlarged retro-uterine lymphatic gland. If the womb was placed in complete anteversion by manual movement, and the pessary put into the cul-de-sac, it would not touch the posterior part of the uterus. He has seen cases in which it was said the pessary could not be borne, and by simply introducing them so there was no retro-uterine pressure, they were tolerated. He thinks the Gehrung pessary would tend to throw the womb down still further, completely capsizing it in the case mentioned by the doctor.

DR. BRIGGS reported a case of

HYSTERIA IN A YOUNG GIRL

16 years of age who had menstruated a fortnight before. She had opisthotonos, her right foot turned in, her face was red, and as she had some pain in her bowels and was a vigorous young person he gave her a purgative. Returning in an hour or two, he found that the purgative had produced an evacuation from the bowels, and that there had been no opisthotonos since. The patient could not speak, but indicated by motions that she had pain in the head and bowels. Appropriate treatment was prescribed. On the next day there had been no recurrence of the spasm, but she could not speak. On endeavoring to get her to speak she would assume a strained position of the head and mouth, but would not even whisper. There was a history of some night seizures in the case, and the conclusion was reached that whatever other element of disease there might be in the case, there was also an hysterical element. An application of ammonia and chloroform was made

to the pit of the stomach and she was encouraged to speak. She at first went through some ridiculous motions with her face, but by dint of coaxing and persuasion she finally enunciated "A" in a whisper. A larger application was made to the pit of the stomach and she enunciated the word "Mary." She could not walk, there being still the turning in of the right foot, but on the third day she managed to hobble about a little, but was still unwilling to talk. Although satisfied that there was a strong hysterical element in the case, the doctor feared more, and took Dr. Herman to see the patient. Various inducements were held out to improve her speech. It was suggested that her head might be shaved and applications made to the scalp, and, as she was much attached to her hair, it was thought this would influence her; then the question of passing an electric current through the larynx was discussed, hoping that, as she was ignorant of what this implied, it might have some influence in stimulating her will. She walked with considerable trouble and with a good deal of tottering, and with an inclination to fall backwards.

DR. GEHRUNG thought the patient had been mesmerized; that the doctor had said to her you can do this, I will give you the ability to do so and so, and it had an effect on her will power. He thought this was more probable than that the medicine had any influence on her will. These patients were often illtreated by physicians. He did not think anything was gained by treatment. The patient might be temporarily relieved from the spasm, but would pay dearly for it afterwards. These attacks came on at certain times, and if they were broken before they were concluded, the next spasm would come earlier than it would otherwise. The spasms were an explosion of an accumulated something, and if you prevented the full extent of the paroxysms they would recur at an earlier period than usual. The best treatment that could be employed was to let the patient alone, keeping her in a dark room, enjoining quiet, and preventing her from doing herself any injury.

DR. J. M. SCOTT thought these patients should not be allowed to go without treatment. He had seen cases recover by just such treatment as was adopted by Dr. Briggs.

DR. T. L. PAPIN related the history of a case of hysteria in which the spasm of the esophagus, the result of a quarrel with her husband, lasted for ten years. She did not swallow solid food for that length of time. She recovered spontaneously at the end of that period.

DR. BRIGGS related the history of a patient who became cataleptic. Her head was twisted to one side, and her face fixed. It soon became evident that she was fascinated by a young woman attendant; when this young woman went to the other side of the bed, the previously rigid muscles of the neck were relaxed, and the head was moved around, an effort to place it in its former position being unsuccessful. The patient was taken from the bed by this young woman, and taken across the floor: her attendant then going to the other side of the room, the cataleptic walked to her with a lumbering gait. The fascination was afterwards trans-

ferred from this young lady to a figure of the Virgin, which then had just as much influence over her.

THE PRESIDENT stated one of the features of these cases to be the large quantity of urine that is passed at the time the paroxysms cease. He always treated cases of hysteria, and generally succeeded in relieving them. An important point in the treatment is to convince the patient that you are going to relieve her; the matter should not be treated lightly before the patient.

DR. T. L. PAPIN had recently been called in consultation in regard to an interesting case of a young lady who was attending a boarding school, who, at the age of 16, menstruated for the first time, having a great deal of pain and scanty flow: sedentary habits and study gradually brought about amenorrhea, constipation, and nervous headache. She was now hysteric, stating that she had not passed water for a month, was melancholic, and imagined there was something the matter with her bladder, or uterus, or abdomen. The doctor introduced a catheter, and drew off about a quart of limpid urine with no odor of ammonia, so that she must have voided her urine within twelve hours. He had recommended that she be sent home, and allowed to take plenty of exercise. A leucorrhœa had made its appearance at the time he examined the patient.

TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF LONDON.

Stated Meeting, May 5th, 1886.

DR. POTTER, *President, in the Chair.*

J. MATTHEWS DUNCAN read a paper on

ELASTICITY, RETRACTION, AND POLARITY OF THE UTERUS.

Retractility has been defined as that property of the uterine tissue, in virtue of which the womb, emptied of a part or of the whole of its contents, acquires a greater thickness of wall at the same time that its volume and its capacity are diminished. It is a function of muscular tissue, and it gets only a little supplementary aid from elasticity. The elasticity of each of the three layers of the uterine walls is discussed as it exists in healthy and in morbid conditions. Retraction is not merely a condition, it is a force. During pregnancy, it is a mere tonic tightening. In labor, its action is necessary. In labor, there is inhibition of it in the circular fibres of the lower segment of the uterus, and in the whole cervix and vagina. Retraction implies expulsion of contents; but the retraction is not necessarily in proportion to the advance of contents. There is probably an essential difference between contraction and retraction. Each may go on without the other. The usual comparisons of the action of the uterus and of the heart are criticised, and a new comparison suggested between the whole of

pregnancy and a diastole, and the whole of labor and a systole. The expulsion of a fibroid is cited in corroboration and illustration. Cases of morbid retraction and of morbid absence of retraction are mentioned. Ergot causes retraction, and not contraction, and hence its failures, its injuries, and its benefits. John Williams describes the retraction of menstruation; uterine polarity, described by Rail, and re-described by Champneys, is referred to, and illustrations of its action given.

DR. GALABIN agreed with almost the whole of the author's description of retraction of the uterus. He was surprised to hear it stated, however, that ergot produced only retraction, and not contraction. If this were so, then the general opinion that in some cases ergot acts as an oxytocic, and hastens delivery, or completes it when nature cannot, must be wrong. Rupture of the uterus occurs in some cases of obstructed labor after the use of ergot, intense rhythmical pains having preceded the rupture. In such cases, he did not think rupture could be accounted for by continuous tension and pressure, due to retraction, having weakened the vitality of the tissue. Perhaps the explanation was that Dr. Duncan refused the title of contraction to that kind of contraction which was the initial stage of retraction. Such a use of the words could not be maintained. By contraction, he understood shortening and thickening of the muscular fibres, by retraction a similar shortening and thickening not followed by relaxation and lengthening, but leaving a permanent shrinking after the tension of the contraction had passed off. Retraction was contraction and something more. The contraction itself was identical in the two cases. Thus, in post-partum hemorrhage the contraction was the same whether it was followed by relaxation and renewal of hemorrhage or ended in retraction and arrest of hemorrhage. He believed that ergot had the power of intensifying both effects in variable degrees in different cases, both the initial rhythmical contraction and the subsequently persisting tonic retraction which maintained the shrinking produced by it.

DR. HORROCKS.—Elasticity of muscular fibre, though nearly perfect, is not sufficient in amount to diminish the size of the uterus after labor. With removal of the stretching force, muscular fibre regains its normal size. Retraction means contraction not followed by relaxation. A contracted muscle feels hard, a retracted one does not.

Retraction after parturition is probably due to the absence of sufficient force inside the cavity to stretch the fibres to their former length. Polarity of the uterus is merely a part of the great general question of relaxation of opponent muscles. He illustrated this by reference to various groups of muscles; relaxation of fibres of cervix during the contraction of those of the fundus is merely one example of the general law. He then discussed reflex tone of muscles, and pointed out that in defecation, micturition, and parturition, there is a reflex tonic contraction kept up in the muscular fibres, especially in the sphincters. The contraction of the sphincters can be inhibited, and the nerve centres for inhibition are closely associated with those for contraction. Defecation, micturition, and parturition can take place independently of volition or even of consciousness. The will has, however, a modified power over them, and can help to start them. Finally,

ergot will cause contraction of muscular fibre, because it has been given successfully many times to bring on premature labor.

DR. CHAMPEYS had difficulty in accepting the teaching that ergot produced retraction. He did not believe that it produced true contraction, neither did he believe that it produced true retraction. Ergot often produced a contraction of limited extent, and then tetanus, the organ contracting and then remaining of the same size, but hard and rigid. This was rather tonic contraction than retraction.

With regard to polarity, the action of opponents referred to by Dr. Horrocks was exemplified in the uterus by conditions involving a disturbance of the normal condition, in which consentaneous, though opposite, action was observed in the upper and lower poles, such as incarceration of the placenta, after-pains, and some forms of dysmenorrhea, conditions analogous to colic in other hollow muscular viscera, the pain being due to violent opposition, instead of normal yielding of one muscle to another.

DR. SLOAN, of Glasgow, thought it must be admitted that retraction differed from contraction, for after the uterus was quite emptied we found in the intervals of the pains, free from tonic contraction, the uterus smaller, *i. e.*, retracted. He thought morphia was the exact opponent of ergot in its action on the lower segment of the uterus. It caused inhibition of this segment, and thus accelerated dilatation. He suggested that great mental distress, as in unmarried women, by preventing healthy retraction, favored absorption and puerperal fever.

DR. BROWN said that light might be thrown on the question as to whether ergot caused retraction or contraction, by noting its action in small doses in threatened abortion or in preventing habitual abortion. In the former its use stops the uterine contractions if not too far advanced, and in the latter the habitual tendency can be cured. On the principle of the double action of medicines these facts may elucidate the point at issue.

DR. ROSSER remarked on the difficulty of separating contraction from retraction. Retraction could not occur without antecedent contraction. Retraction meant persistent contraction of the fibre after active contraction ceased. Thus, muscular fibre not returning to its original length became shorter after each contraction. At the end of a contraction of a uterine muscular fibre there was no return to the original state or to relaxation, as in a voluntary muscular fibre. On this view contraction is the cause of retraction, and no retraction can take place without previous contraction. Retraction could, therefore, never precede or cause contraction. The first effect of ergot was to cause contraction; then followed retraction, according to the potency of its stimulation. Ergot interrupted the rhythm and caused tonic spasm, both in the body and cervix. It seemed questioned whether it directly stimulated the fibres of the cervix or whether it interrupted their inhibition.

DR. PERIGAL asked Dr. Duncan how he would explain the action of ergot given in fairly large doses to restrain hemorrhage, when that action seems expended on the lower segment and cervix, stopping the bleeding but allowing the body of the uterus to enlarge and retain the clot. He had lately seen several cases in which this had happened; then pain set in, and a large clot was expelled. Ergot seemed to expend its action on the lower segment, and affect the fundus but little.

THE PRESIDENT and Dr. M. Handfield Jones also made remarks.

DR. DUNCAN, in reply, was gratified at the critical remarks. It was plain from them that there was much need of drawing attention to the great and long-recognized, but little known difference between contraction proper and retraction. He could not recognize in ergot the power to induce labor or abortion, except in an indirect and uncertain way. It was common to hear of great pains induced by ergot, but he had not seen them. We much wanted a medicine which had that power; it was a want not yet supplied.

CASE OF SEROUS PERIMETRITIS.

By AMAND ROUTH, M.D., B.S., M.R.C.P.—The disease was brought on by a chill during menstruation, in a woman aged 27, suffering from subinvolution and its consequences. The uterus was fixed, and there was bulging downwards of the pouch of Douglas, with two fluctuating points. Each was aspirated, three and one-half and one and one-half ounces of clear serum being drawn from them. The intestines were matted, forming a large hypogastric tumor, which varied with their distention.

The patient speedily recovered after the aspiration, but had a slight relapse at her next menstruation, the temperature rising to 100° F. The researches of Drs. M. Duncan and J. Williams were referred to, and the opinion was hazarded that these cases were more common than is supposed, and were often diagnosed as hematocele. The diagnosis between serous and purulent perimetritis was only certain after aspiration.

Mr. Burton's theory that these effusions were due to pelvic hematocele was opposed to the author's opinion that they were due to physiological congestion of the uterus during menstruation, being changed into inflammation (metritis) by a chill; such inflammation spreading by continuity of tissue, either along the Fallopian tubes or through the uterine tissue to the peritoneum. Extreme cases of bulging of the pouch of Douglas were alluded to, caused, as Dr. John Williams has shown, by adhesive lymph fixing the intestines above, and so preventing the serous fluid from rising up into the pelvis.

MR. DORAN said the case tended to prove the true signification of the term serous perimetritis. Some irritant material from the tubes or elsewhere set up peritonitis; the uterus, tubes, and intestines happened to adhere in such a manner as to cut off a segment of the peritoneum. This was the first essential condition. The inflammatory process not being of a low type, the serum instead of pus was poured out into the portion of peritoneum shut off from the general cavity. This was the remaining essential feature in that accidental variety of pelvic peritonitis conveniently termed "serous perimetritis."

He could not understand Dr. Routh's theory about the share which the posterior layer of the broad ligament might take in this disease. He described the actual anatomical relations of the parts, and pointed out that they explained the rapid matting of

ovary, tube, and broad ligament in such cases, but in some intestine might displace the tube and come into contact with the broad ligament and adhere to it.

MR. THORNTON wished to emphasize the remarks that had been made as to the inflammation forming serum instead of pus, and to point to the analogous conditions frequently seen in the pleura. If advantage of this knowledge was not taken and the serum evacuated, then tension would lead to suppuration and its attendant dangers. But in the earlier reports of these cases aspiration and tapping usually led to suppuration and death, just as the removal of serum from the pleura used frequently to end in empyema and death. The great fact brought out by Dr. Routh's case was that properly performed aspiration of the serum in these cases ended in speedy cure, just as did the removal of serum from the pleura in the present day usually end in cure. The difference in result was to be found in the careful antiseptic management of the operation. Dr. Routh cleansed the vagina with corrosive sublimate lotion, and packed it with iodoform gauze—hence the speedy cure. Had he with his aspirator introduced putridity into the peritoneal sac, suppuration instead of cure would have resulted.

TRANSACTIONS OF THE FIRST MEETING OF THE GERMAN GYNECOLOGICAL ASSOCIATION.

HELD AT MUNICH, JUNE 17TH, 18TH, AND 19TH, 1886.

REPORTED BY M. WIENER, M.D., Breslau.

First Day—Morning Session.

President, DR. WINCKEL, Munich. *Secretary*, DR. KUESTNER, Jena.

DR. P. MUELLER (Berne) read a paper on

THE AFTER-TREATMENT OF GRAVE LAPAROTOMIES.

Among the dangers after laparotomy, disturbances from the intestinal tract deserve special attention. They occur not rarely after ovariectomy, and are frequently connected with the operation, in that inflammatory processes take place around the pedicle, or some intestinal loops become adherent to the wound or raw surfaces. Of especial gravity are those cases in which extensive raw surfaces must be left at the operation, as where large portions of the intestines have to be detached. Under such circumstances, firm adhesions occur when the intestines are kept quiet. The reader witnessed two cases of death from this cause (symptoms of incarceration). These adhesions might be prevented to a certain extent if we could omit the compressive bandage, for then the raw surfaces are not pressed together; but we cannot do without these

dressings in order to avoid after-hemorrhages. Yet where the hemorrhage is not to be feared, the permanent dressing could be dispensed with. Moreover, we could prevent such adhesions of the intestines to each other and to the abdominal wall by isolating these parts, for instance, by injecting into the abdominal cavity fluids which keep the parts separated in the first few days after the operation. The fluid must be aseptic, non-irritating, must have no toxic influence, must be readily absorbable or removable. Such a fluid we have in a sterilized 0.7-per-cent solution of table salt. In one case, the reader injected 2,400 gm., which only at first was followed by disturbances (rise of pulse and respiration). These phenomena were symptoms of absorption, caused by too rapid absorption, not by sepsis. This overfilling of the circulation and overtaxing of the heart might perhaps be avoided by injecting smaller quantities of the salt solution from time to time, and, if necessary, allowing the fluid to escape through the drainage tube which must remain.

DR. OLSHAUSEN expressed surprise at the number of cases in Mueller's practice: he had known adhesions to occur after the introduction of iodoform into the abdominal cavity; he had always observed adhesions of the intestinal loops to the pedicle, and only once adhesion of the loops to each other; this led to symptoms of peritonitis without the occurrence of ileus. All cases of ileus are due to adhesion to the pedicle; if we wished to prevent this accident, we should, like Thornton, stitch the pedicle to the vesico-uterine fold of the peritoneum. The idea of injecting salt solution he held to be rational, especially if hemorrhage had occurred; in which event it would be better, instead of transfusion, to make injections into the abdominal cavity. After injecting large quantities of thymol he had noticed some symptoms of shock, perhaps symptoms of intoxication; experience would have to decide which.

DR. SCHATZ had observed adhesions after laparotomy despite a favorable course; he believed such adhesions to be more frequent than would appear, even when symptoms are absent. These adhesions need not be serious; after some time the intestine again becomes pervious; for such cases opium should be employed, since the obstructed portion cannot always be found after opening the abdomen.

DR. KALTENBACH.—In times past, cases of intestinal obstruction were more frequent than nowadays; probably, he formerly believed, owing to the careful toilet which irritates the intestines and causes axial rotation; besides, the antiseptics employed might scrape off the epithelium. At present he is of a different opinion: he ascribes the adhesions to insufficient disinfection; he introduces sponges but rarely into the abdominal cavity; for this he uses sublimate. Since then he had seen no more incarceration. Among twenty-four cases treated with carbolic acid, he observed three times symptoms of intestinal occlusion (two of them fatal); now, among fifty-seven cases he had not had any.

DR. GUSSEROW had frequently, during the earlier operations, observed adhesions of the intestines to the anterior abdominal wall without any symptoms having shown themselves. He does not ascribe this to the toilet.

DR. KRUKENBERG called to mind the case formerly published, in which adhesions had taken place after sublimate treatment. Since he had given up the use of the sublimate, he had not seen any more cases of ileus. As regards adhesions to the anterior abdominal wall, he believes that the turning out of the tumor through the small incision causes minute hemorrhages between the abdominal wall and the peritoneum, as well as detachment of epithelium.

DR. ELISCHER (Budapest) thinks that he avoids adhesions to the pedicle by sewing it over and over with catgut; in such cases he has never seen adhesions of the pedicle to the intestine. He has, however, had a case of rupture of the stomach in chronic gastric catarrh; after sixteen hours the peritoneum was firmly adherent, and for this reason he believes the cause to lie in detachment of the epithelium.

DR. MEINERT (Dresden) had observed a fatal case due to adhesions. After an ovariectomy a remnant of a cyst had been dropped into the abdominal cavity. A year later, the operation had to be repeated, as the tumor enlarged again. The intestine was wounded and sutured. There was a linear adhesion of the intestine to the abdominal wound.

DR. KEESTNER thought that adhesions might possibly be prevented by the running catgut suture of the peritoneal surface.

DR. SAENGER did not believe that the salt solution would prevent adhesions, because the fluid would be absorbed in a short time, before the regeneration of the wound surfaces had commenced. One raw surface suffices to bring about adhesions. At all events, adhesions are not dangerous, are of frequent occurrence, and are not always the cause of ileus. He had seen ileus due to a large peritonitic exudation; in another case nothing was found but tympanitic distention and ulceration of the stomach; he believed this to be due to septic intestinal paralysis. In this case injection into the abdominal cavity would have availed nothing. Finally he referred to the experiments he had made in connection with his paper on the resection of the peritoneum.

DR. MUELLER remarked that he had used sublimate for two years, and had observed the symptoms in that time.

DR. SCHWARZ did not believe that detachment of the epithelium was a cause; if this were so, adhesions should be found in other places where it is of equally frequent occurrence. He believes that the cause of the adhesions lies in the form of the abdominal cavity and the irritation of the epithelium. The abdominal suture produces an excavation in which the intestines are situated. This facilitates the occurrence of adhesions.

DR. V. SAEXINGER defended carbolic acid and thorough disinfection in reply to Dr. Kaltenbach. Among one hundred and thirty-one cases he had observed no intestinal occlusion.

DR. KALTENBACH looks upon sublimate simply as an agent which more readily protects against purulent peritonitis.

DR. FIRNIG (Cologne) had observed no case of intestinal occlusion during three years in Bardenheuer's practice, who uses a five-per-cent solution of carbolic acid. He ascribes occlusion to infection (perhaps by specific carriers), which leads to adhesion. He recommends, wherever possible, incapsulation of the field of operation towards the abdominal cavity, and then to let the operation follow (junction of the round ligaments with the anterior abdominal wall, then enucleation of the tumor).

DR. GUSSEROW denied the assertion of the last speaker; it was

not necessary to invent special microbes for adhesions; minor injuries sufficed.

DR. BAYER (Strassburg) read a paper on

PLACENTA PREVIA.

Duncan's theory as regards hemorrhages in placenta previa was formulated to apply only to the hemorrhages occurring with the pains and suffices for these alone. Since that time we have learned of the formation of a lower uterine segment. This is not simply the lowest portion of the uterus, but a zone, characterized by quite definite qualities, which does not take part in the contractions, and depends after labor in a condition of extreme relaxation. The hemorrhages have been brought into connection with the development of this lower segment, and since the latter forms during pregnancy, this apparently explains also the hemorrhages occurring during gestation.

The reader then compared the various views respecting the origin of the lower uterine segment with the conditions existing in placenta previa. According to the views of those who look upon the lower segment as a portion of the body of the uterus, the placenta previa must be partly or wholly inserted into the segment. But this is a physiological impossibility, at least in cases terminating favorably, for, owing to the absence of contraction or retraction of the placental site in the lower segment, every parturient with placenta previa would be hopelessly doomed to death from hemorrhage. The other view, according to which the lower segment forms from the supravaginal portion, explains the phenomena in a less forced manner. But then the questions arise, why does hemorrhage not invariably occur during pregnancy and why can the placenta be felt occasionally immediately over the closed cervical canal, or one with opened parallel walls? These objections cannot be explained by saying that the conditions vary in different cases. The reader concludes from the observation of twenty cases that in placenta previa similar conditions prevail as in premature labor, that is to say, that in that condition the defective development of the supravaginal portion is a typical phenomenon; that furthermore the internal os occasionally remains closed until the actual commencement of labor, and that in that case no lower segment is formed.

The reader distinguishes:

A. Simple low insertion of the placenta, where the margin of the placenta reaches only into the neighborhood of the internal os. Here hemorrhage occurs only during labor, when a portion of the placenta remains in the area of relaxation, *i. e.*, when the lower segment is not formed normally. Accordingly the reader found low insertion of the placenta with hemorrhage during delivery only in premature labors in the eighth or ninth month.

B. True placenta previa. To constitute this condition, it is ne-

cessary that some portion of the placenta at some time covers the internal os. There is only a difference in degree between placenta previa centralis and lateralis; the former may pass into the latter in the course of pregnancy or not until labor, when the supravaginal portion develops accordingly; inversely, the symptoms of placenta previa centralis may be present, although only a small lobe projects over the internal os, when the latter did not dilate materially before the examination. As the internal os opens, the placenta inserted upon it must become detached or it must tear; in either case hemorrhage occurs. If this takes place during pregnancy, provided the latter continues after the first hemorrhage, we must expect alterations in the placenta. In the cases observed by the reader, such alterations were constant when hemorrhage had occurred previous to labor; they were always absent when the first hemorrhage took place at the onset of true contractions. The reader distinguishes:

1. Hemorrhages during pregnancy; they characterize cases in which the os opens during pregnancy.

- a. The placenta remains firmly on its seat, while the portion on the os internum tears; the laceration may extend to the membrana chorii; in this case labor will probably set in soon or the child die from loss of blood.

If the internal os opens very gradually, more superficial lesions of the placenta may arise; according to the view of the author, a placenta marginata occasionally forms by the tearing apart of the placenta, flattening and relatively excessive spreading of the maternal surface.

Perhaps such lacerations or tearing apart of the cotyledons over the internal os explain also the cases of placenta succenturiata.

- b. When the internal os opens, the smaller lobe of the placenta is loosened; it falls into the lower segment which develops only to a slight degree; it becomes exsanguinated, flattens, atrophies, and detaches itself from its chorionic insertion. This form of placenta, therefore, can be looked upon as a partial placenta marginata.

Should the pregnancy continue long enough after the detachment of the smaller lobe, it is possible that a lower segment of normal extent will form subsequently; if the placenta at the same time is situated at the anterior wall, it will possibly be no longer palpable during labor as previa, and in some cases not give rise to hemorrhage even during the pains.

2. Hemorrhages during true contractions. Here Duncan's explanation is valid. The uterus draws itself upwards at the placenta so long as the ovum remains intact. In this way, a larger and larger portion of the placenta appears free; the lobe thus detached looks thick, saturated with blood, bluish-red, and covered with clots. If it was the source of hemorrhage before or

during pregnancy, there are besides corresponding alterations in the placenta.

In rarer cases, the internal os remains closed until the onset of labor. Then there is an absence of those changes in the placenta which require time for their development, but there is also an absence of every uterine hemorrhage during pregnancy, and the course of the labor in such cases is usually more difficult, and more dangerous for mother and child.

a. The unfolding of the cervix during the pains progresses in a normal manner. In such cases the manipulations of the attendant are rendered more or less difficult, and the ordinary cervical lacerations—longitudinal tears through the lower portion of the neck—occur more readily. The first hemorrhage is then usually of special severity, as Spiegelberg has formerly pointed out.

Of much graver import are the cases in which the still undeveloped supravaginal portion shows a tendency to form a stricture—placenta previa with stricture. In such cases, the internal os remains comparatively narrow during the pains, while the inferior portions of the cervix dilate in form of an ampulla. The author has met with a similar case in which the parturient lost no blood, not only during pregnancy, but even for two days during labor, although placental tissue was situated all around over the internal os. Immediately after labor, the patient bled to death from a fistulous cervical laceration extending as far as the peritoneum. The reader proposed the following divisions:

1. Placenta previa with corresponding development of the supravaginal portion and hemorrhages during pregnancy and alterations in the placenta.

The reader observed ten cases with hemorrhages during pregnancy; among these were two cases of placenta marginata totalis, six of partial placenta marginata, two of placenta succenturiata. Eight children were born living, one at six months, one dead. All mothers recovered.

2. Placenta previa with cervix remaining intact until the onset of true labor; no chronic alterations in the placenta, no uterine hemorrhages during pregnancy.

Aside from three cases of low insertion of the placenta and hemorrhage with premature labor, the reader had observed seven cases of placenta previa without hemorrhage during pregnancy. In six of these, labor occurred at term. Two children were born living, five dead; one mother died of hemorrhage immediately after labor, one had a severe attack of parametritis, one required the suturing of the cervix.

DR. SCHATZ thought that many more examinations must be made in order to clear up the relations in question. The formation of the placenta is present much earlier than the activity of the uterus; it takes place at a time when it is impossible to speak of hemorrhages and lacerations.

DR. KUESTNER spoke of the annulus fibrosus which stands in close connection with placenta previa. In the case of the annulus fibrosus we have to deal, not with fibrous formations, but with coagulation necroses (Ackermann), perhaps also with hemorrhages which subsequently undergo alterations. The thick chorionic membrane which unites the cotyledo succenturiata is likewise due to coagulation necrosis, and not to detachment. The annulus fibrosus prevents the growth of the placenta beyond it.

DR. BAYER found placenta marginata most frequently at the tubal angles, and gave a mechanical explanation of it. It is usually semilunar in shape.

DR. SCHATZ.—The idea that the placenta occasionally is unable to grow further may be correct; but we find placenta which have no ring, and still do not grow further; in proof of this, he cited the twin placenta of a single ovum.

DR. VEIT (Berlin).—Kuestner has changed his view, as may be learned from the discussion at the Magdeburg meeting of German Naturalists and Physicians; in the formation of the placenta, the essential point is, how the white ring arises. Before a coagulation necrosis begins, other processes must be present; he believed that they are processes affecting the decidua; he laid the greatest weight on the white ring, and thought that the growth beyond of the placenta is possible. He inquired whether Bayer was basing on anatomical or clinical observations when he asserted that the placenta does not lie in the lower uterine segment.

DR. HOFMEIER spoke of the development of the lower segment in placenta previa, and would not admit that the lower segment does not expand; he believed that this question could be solved only by anatomical preparations. Thus, uteri which he had examined anatomically in placenta previa showed a lower uterine segment very well developed. Contractions of the lower uterine segment are not necessary for the arrest of hemorrhage in placenta previa, as Simpson's experience teaches. The question is mainly where the uterine vessels enter the muscular structure: in one specimen he found that the larger vessels entered at the point where the peritoneum is firmly attached. Hence contractions of the lower segment are not necessary.

DR. KUESTNER did not believe in primary inflammatory processes of the decidua, as there were not sufficient data at hand in support of it. The main point was a coagulation necrosis.

DR. BAYER.—The *margo* of the placenta marginata is a secondary feature. To Hofmeier he replied that he did not doubt that a lower segment forms; the question is only whether the lower segment develops during labor. As regards the site of placenta previa below the prominence due to contraction, he doubted whether in these cases a normal lower segment had formed.

DR. FEHLING (Stuttgart) read a paper on

THE RELATIONS BETWEEN THE QUALITY OF THE BLOOD IN THE PREGNANT FEMALE AND THE COMPOSITION OF THE LIQUOR AMNII.

Looking upon the liquor amnii as a maternal transudation, the reader had asked himself the question whether it would not be possible to find relations between the chemical composition of the blood and the liquor amnii. To this end, the liquor amnii was analyzed quantitatively, also its dry residue, albumin, and ash.

In the blood of the grávida, the quantity of hemoglobin was ascertained by means of Fleisch's hemometer, and the number of blood-corpuscles counted.

Taking the quantity of hemoglobin, according to Fleisch, at 100 per cent in healthy men and at 93 per cent in healthy women, there were found variations of hemoglobin in gravidæ from 67 to 110 per cent; in two-thirds of the cases examined (about one hundred) it was less than 100 per cent. Repeated examinations of the blood of the same grávida showed generally an increase of the hemoglobin with the advance of pregnancy—a result which conflicts with earlier investigations by Andral and Gavaret, Nasse, and others.

The increase finds its explanation probably in the vigorous nutrition, in the same way as the decrease of hemoglobin usually found post partum is explained by the loss of blood during labor. The greatest decrease was to 41 per cent in placenta previa. The number of red blood-corpuscles amounted to between three and four millions, on the average, less than Ingerslev found. The rise and fall in the number usually corresponded with the increase and decrease of the quantity of hemoglobin.

No constant relation could be found between the quantity of liquor amnii and the amount of hemoglobin of the grávida; but it was found, as before, that the dry residue is independent of the quantity of liquor amnii. Hence the liquor amnii is not simply diluted towards the end of pregnancy. The dry residue of the liquor amnii depends directly on its albumin contents, the amount of ash remains nearly constant.

Furthermore, there was found a proportional relation between the amount of hemoglobin in the blood and the quantity of albumin in the liquor amnii, the albumin in the liquor amnii increasing with the rise of hemoglobin contents in the blood of the grávida, viz., with a quantity of hemoglobin averaging 106 per cent it equalled 0.21 per cent; and of hemoglobin 80 per cent it equalled 0.15 per cent. Finally, the amount of albumin in the liquor amnii seems to be somewhat larger in ripe than in premature ova. In these results the reader finds a further support for the view that the liquor amnii is to be considered in the main as a maternal transudation.

DR. KRUKENBERG.—The increase of albumin in the liquor amnii may be due to alterations in the fetal blood, and need not depend on the increase of hemoglobin in the maternal blood. To be sure, according to his investigations, there were no urinary casts in the liquor amnii, while they are present in the fetal urine. His experiment of tying the uterine vessels to cause uterine stasis had been barren of results as regards the source of the liquor amnii. He held that Fehling's explanation, that the liquor amnii was chiefly a maternal transudation, was possible, but not proven.

DR. GUSSEROW remarked that he no longer as strictly maintained his former standpoint. Ultimately the liquor amnii comes, of

course, from the maternal blood; for although the fetus really adds its urine to the liquor, this portion was likewise derived from the maternal blood.

DR. PROCHOWNICK.—The chemical processes do not suffice; he would recommend, besides, physico-experimental investigation. He had recently experimented with the fetal membranes, allowing a current of fluid to pass; nothing had penetrated.

DR. SCHATZ pointed to the condition of hydramnios in the case of some twins, and expressed the belief that nature here showed the source from which the fluid was derived.

DR. FEHLING had not yet examined the hemoglobin contents of the fetal blood. He did not intend his statements to be demonstrative, but merely to support his view. In reply to Prochownick, he remarked that dead membranes gave different results from living ones.

DR. WIENER.—According to the investigations of Zuntz and Cohnstein, the hemoglobin contents of the fetus steadily increase with its progressive development; hence the larger quantities of albumin in the liquor amnii during the later months of pregnancy might also be derived from the fetus. At all events, it had been proven experimentally that the membranes are more pervious in the later than in the earlier months of pregnancy. This fact might perhaps explain the larger amount of albumin in the liquor amnii in advanced pregnancy, but proved nothing against an admixture of fetal urine. In this respect, we dare not deny some influence due to the activity of the fetal kidney which has also been proved experimentally. Moreover, the cases of urinary stasis accompanying occlusion of the urinary passages of otherwise healthy ova indicate a regular activity of the fetal kidney, in other words, an admixture of the urine to the liquor amnii.

DR. RUNGE stated that Alex. Schmidt, who had examined the blood of the child at the moment of birth, had not found any material alteration of the hemoglobin contents of the fetus during labor.

DR. PROCHOWNICK said in reply to Fehling that the membranes which he had used were quite fresh and as like the living ones as possible.

DR. SAENGER (Leipzig) read a paper on

PALPATION OF THE URETERS.

He referred to his paper recently published in the *Arch. f. Gyn.*, XXVIII., 1, and gave the previous history of the subject, in which Hegar and Chrobak take a prominent part, and in connection with palpation of the ureters in diseases of the urinary organs he stated that case 2 described in that paper (cysto-uteropyelitis duplex) had meantime died, and the diagnosis made during life, of greater implication of the right side, was fully confirmed at the autopsy. He spoke of making the diagnosis of diseases of the bladder and kidneys from the vagina, of palpating the ureters in the pregnant female, with healthy and morbid sexual, but normal urinary organs. He also discussed the frequent occurrence of epithelium from the renal pelvis in the urine from inflammatory and thickened ureters, and finally contrasted the sounding of the ureters (perfected mainly by Pawlick and his

ingenious method) with the brief ligation of the ureter, not according to Hegar after exposure of the ureter by a vaginal section, but without the latter operation, after having marked the ureter through Simon's speculum under the direction of the eye. Palpation of the ureter, however, will certainly restrict this procedure and even the necessity for the separate collection of the urine from one kidney.

He exhibited three gravidæ and two gynecological patients in whom the ureters could be felt in a most satisfactory manner.

DR. WINCKEL remarked that Hildebrand had previously demonstrated the protuberance of the ureters in retroflexion of the uterus.

DR. HIRSCHBERG.—It is not possible to distinguish the epithelium of the renal pelvis from that of the bladder; therefore it cannot be decided whether catarrh of the renal pelvis or of the bladder is present; sounding likewise gives no information in the case of calculous kidney.

DR. CEROBAK had also stated before that the ureters are palpable. Pawlick is likewise in the habit of palpating the ureters.

DR. SCHWARZ had repeatedly palpated the ureters and thinks the procedure easy. Where difficulty is encountered, he fills the rectum with the colpeurynter so as to have a foundation on which the ureter can be felt. He prefers the direct method (examination with Simon's speculum) to that of Saenger. In this way he had repeatedly seen turbid urine flow from one ureteral orifice, and clear urine from the other. Through Simon's speculum he had several times sounded the ureters; it is only necessary to fix the orifice with a tenaculum.

DR. OLSHAUSEN.—In order to determine whether one or the other kidney is diseased, we can omit ligation and content ourselves with compression of the ureter; the latter can certainly be compressed with a clamp-like instrument from the vagina, and this can be done for some length of time without bad results.

DR. KORN (Dresden), among one hundred cases of pregnant women, had failed only once to palpate the ureters. In one case of chronic vesical catarrh he had felt both ureters to be as thick as a lead pencil.

DR. ELISCHER.—Palpation of the ureters is important, especially with reference to the extirpation of the uterus; he had made a ureteral fistula in his first extirpation. Sounding *per se* is not so difficult as the penetration beyond the angle formed by the vesical portion of the ureter with the upper part. He thought that ligation of the ureters was not free from danger.

DR. MUNDÉ doubted whether the ureters could really be distinctly felt, or whether other structures might not be mistaken for them. In chronic disease of the bladder the thickened ureters could be felt, as he had convinced himself in one case.

DR. ZWEIFEL.—Compression of the ureters had been spoken of already by Tuchmann and Simon; this he believed to be most convenient. The compression forceps are applied to the vesical orifice of the ureters.

DR. KRUKENBERG.—After ligation of the ureters nephritis may occasionally arise (Aufrecht).

DR. SAENGER.—Hegar only mentioned palpation of the ureters

in general, as did Chrobak. Besides Hildebrand's statement, which seems to refer solely to retroflexion of the uterus, nothing is said anywhere respecting the almost regular palpability of the ureters and its applicability to the diagnosis of diseases of the urinary organs. Not the mere finding of epithelium from the renal pelvis, but its occurrence in large numbers and pronounced character, together with evidence of disease of the ureters, he believes to prove implication of the renal pelvis. In his paper he had already proposed compression of the ureters instead of the ligation, wherever possible. Ligation of short duration would hardly produce nephritis. Sounding of the ureters as practised by Schwarz he would characterize as antiquated hereafter, when contrasted with Pawlick's method. Mistaking other structures for the ureters is out of the question if we bear in mind the anatomical relations. Attention must be devoted only to those inferior portions of the urinary organs which are palpable from the vagina, then they will often be felt with surprising clearness both in health and disease.

DR. SCHWARZ did not intend in every case to dilate and use a tenaculum for the purpose of sounding the ureters; he had done so only in one case.

Afternoon Session.

President, DR. WINCKEL.

DR. ZWEIFEL (Erlangen) exhibited an

APPARATUS FOR THE FILTRATION OF LIQUIDS CONTAINING BACTERIA, in connection with the following paper:

When pregnant women suffer with infectious diseases, it is well known that the ovum does not escape the infection. Of course, there is a great difference in the several forms. While variola hardly ever spares the child, the ovum may escape the infection in some of the other diseases.

Nothing is known in regard to typhus fever, but with reference to measles and scarlatina, however contagious they may be otherwise, we know of no instances of transmission. To be sure, the last-named diseases cannot be properly compared with variola because they are mainly diseases of childhood, and a single attack nearly always secures immunity, and secondly, because it is possible for the fetus to pass through the entire disease in utero, but continue to develop and be born without showing a trace of having been affected.

There is, however, a disease which shares the special position of variola—splenic fever. Davaine inoculated pregnant animals with its infectious principle and the fetuses escaped the affection. Similar results have been published by Bollinger.

Up to a few years ago, this fact seemed to harmonize very well with our experience regarding the transition of solid, liquid, and gaseous bodies from the maternal to the fetal organism. The demonstration of liquid and gaseous bodies in the fetus succeeded.

that of solid bodies failed. The circumstances have changed in every respect during the last few years; solid bodies, including the spirillum of remittent fever and even the bacillus anthracis, were found in the fetuses of the infected maternal animals.

At any rate, this difference still exists, that the contagium of variola extends very rapidly, other infectious matters more slowly, to the fetus.

Three years ago, when he was still impressed with the experimental labors then known, he explained this difference to himself thus, that the poison of variola is soluble, while that of the other diseases is inclosed in cells. In order to test this, he filtered lymph through porous clay, in imitation of the clay-cell filtration introduced by F. W. Zahn, and inoculated the filtrate. The result was positive, the new-born children thus vaccinated developed perfect vaccination pustules.

He was dissuaded from continuing the experiments by some critic who, basing on a well-known citation, asserted that the schizomycetes are able to pass through porous clay. Therefore, the continuation of the experiments was useless for the theoretical investigation.

Last year, however, he became aware of three papers which positively claim that the clay cells retain organized germs. He referred to the article by Chamberland,¹ who filtered water in this way and made it free from bacteria, and two experimental publications by Leube and Sattler. Both succeeded in producing by filtration pure sterilized solutions which remained free from decomposition.

Through these results his former experiments again gained in interest. Although such investigations can hardly decide the question as to the nature of the poison of variola, the method gains in practical value, as we might expect from it that vaccine virus can be simply purified from other carriers of infection, and thus the opponents of vaccination can be deprived of the last justification for their opposition. Further investigations will soon follow.

DR. KRUKENBERG reported some experiments respecting the transition of solid bodies (sulphate of baryta) into the fetus. The results cannot yet be given.

DR. ZWEIFEL emphasized the fact that the transition of solid bodies had been demonstrated, for instance, the spirillum of remittent fever.

DR. KRUKENBERG pointed out that the white blood-corpuscles may take up the solid bodies and carry them along. He did not deny the transition of micro-organisms.

DR. ZWEIFEL also exhibited some

¹ Chamberland, "Sur un filtre donnant de l'eau pur." *Comptes rendus*, T. 90, p. 247. Ref. in Virchow-Hirsch's *Jahrb.*, 1884, I., p. 496.

MEDICATING TUBES,

bent like a sound, by means of which he introduces drugs into the uterus; a small brush inserted into the tube propels the drug.

DR. KUESTNER simply attaches rubber tubing to an injection catheter and thus introduces the drug into the uterus.

DR. FROMMEL (Munich) read a contribution to the

HISTOLOGY OF THE OVIDUCTS.

Referring to the findings recently reported by Martin, the reader remarked that Hennig claims the tubal epithelium to be composed of several layers, while Hensen described only one layer. The latter view is correct, but the nuclei are not disposed in a row. The cells exhibit remarkable forms, and their nuclei are at different places. On preparations from the tube of a cat, he found a rod-shaped formation; after maceration in 33% alcohol, this proved to be composed of compressed nucleated cells without protoplasm. The same condition was found in dogs, sheep, and monkeys. The tubal epithelium probably possesses some secretory activity; at the time when the ovum passes through, protoplasm is evacuated into the tube. The mucosa of the tube is arranged in longitudinal folds and makes the impression of villous proliferations. In monkeys and bats, the appearances resemble those of early human embryos. In them we find four main folds, a cross section of which produces a star shape. The human embryo of four months still lacks the muscular structure of the tube. Smaller folds subsequently arise beside the main folds. During pregnancy the folds increase in size; at the same time the lumen of the tube is increased rather than obstructed, owing to the simultaneous growth of the wall. The reader had not found any *glands*. The *vessels* run a longitudinal course and are particularly well developed at the wall of the tube, but show also ample ramifications in the villi. In gravidæ the abundance of vessels was striking, not only in the villi, but also in the wall. The paper was illustrated with numerous drawings.

DR. BUMM (Würzburg) read a paper on

THE ETIOLOGY OF PUERPERAL CATARRH OF THE BLADDER, BASED ON OBSERVATIONS OF PUERPERÆ AND EXPERIMENTS ON ANIMALS.

Having had under observation eight cases of puerperal cystitis, the reader had experimented to ascertain the etiology. Catheterization in the puerperium not rarely provokes the catarrh. The urine in these cases is always acid. It invariably contained a diplococcus bearing the greatest resemblance to the gonococcus. The cocci were gathered in colonies which often were arranged in or around a cell. They differed from gonococci in their staining capacity after Gram's method—they assumed a dark-yellow color—and in their pure culture; they assumed the shape of yellow

plots, thus showing great similarity to the *Staphylococcus aureus*. This fungus, which according to Doléris is invariably present in the lochia, reaches the bladder with the catheter and increases there. The reader experimented with dogs and kids, and found that, if the bladder was normal and the escape of the urine unhindered, millions of cocci could be introduced into the bladder without any development of colonies supervening in the urine; a short time afterwards the bladder was again cleared. In fact, if all organisms eliminated by the kidneys were to cause cystitis, this affection would be of more frequent occurrence. As the reader's experiments showed, the effect of the fungi on the bladder depends upon whether its mucous membrane is intact or whether it has been placed in an abnormal condition by direct or indirect injuries. In the latter cases a violent purulent catarrh appeared. This seems to indicate that the diplococci found in puerperal cystitis determine the violent purulent character of the inflammation. The stasis of urine in puerperæ, and the contusions of the vesical mucosa which are not rare during labor, favor the nidation of the cocci. It also shows that the latter, like the germs of wound infection, possess only a slight power of invasion, not to be compared with the energy of the organisms of the contagious diseases, *e. g.*, gonorrhea, anthrax, etc. While the fungi of these diseases take root at all times and under all circumstances, the germs of wound infection require a favorable state of the soil on which they develop. Therapeutically this experience may be utilized in this way, that, aside from keeping aloof the carriers of infection, we may oppose to them a healthy surface.

DR. OLSHAUSEN.—Puerperal cystitis is not always of one and the same character. Sometimes it passes away rapidly; at other times the process quickly extends upwards into the renal pelvis, and even into the kidneys. This condition is accompanied by high fever, often of long duration. After the vesical catarrh is recovered from, the kidney disease remains behind. After several weeks of apparent health, there is a sudden explosion of rigors, pain in the region of the kidneys, etc. After months of intermission another attack may supervene. These prolonged intermissions render the diagnosis very difficult. In other cases, a most offensive odor is present; such cases are very stubborn. It is probable, therefore, that we have to deal with various organisms in vesical catarrh.

DR. MICHAEL (Dresden) had found the same micrococcus as Bumm, in all cases of vesical catarrh with thickened ureter. The urine always had an acid reaction.

DR. HIRSCHBERG inquired whether Olshausen had found the urine clear in the periods of intermission. (Dr. Olshausen replied in the affirmative, as regards some of the cases.) The disappearance of the vesical catarrh might also rest on central causes, which he had found to be the case in an attack of hysterical paraplegia.

DR. OLSHAUSEN believes that the violent symptoms after prolonged intervals do not indicate that the vesical catarrh persisted

or had returned, but merely that there was an exacerbation of the kidney affection.

DR. HIRSCHBERG thought that the differentiation between catarrh of the renal pelvis and that of the bladder was very difficult.

DR. KRUKENBERG (Bonn) read a paper on

THE BEHAVIOR OF OLD CICATRICES FROM THE CESAREAN SECTION
DURING SUBSEQUENT PREGNANCIES.

The reader reported briefly on twenty-six such cases found in the literature, and on another case from the Bonn clinic, in which a diverticulum formed in the uterus and was followed by rupture.

[A more complete abstract will appear in the *Arch. f. Gynaecologie*.]

DR. SAENGER (Leipzig) read a paper on

SIMPLIFICATION OF THE TECHNIQUE OF THE CESAREAN SECTION.

If the improved Cesarean section is to become common property of the profession, it must be simplified as much as possible. The reader described his latest method; first, the *preparatory steps* which, aside from disinfection, are as simple as possible. *Abdominal incision* in the linea alba. Turning out of the intact uterus is not advisable, since the abdominal incision may have to be extended, and the intestines might prolapse. *Uterine incision in situ*, to be made as an anterior median section, avoiding the lower uterine segment. In case of placenta previa, rapid division of the placenta or lateral detachment. The fetus is delivered most easily and rapidly by the feet.

Eventration of the uterus; a napkin is spread over the intestines, another one envelops the uterus. Elastic ligature of the lower uterine segment, for which could also be substituted manual compression or torsion of the uterus around its longitudinal axis. Manual detachment of the placenta, disinfection of the uterine cavity (iodoform), in which is placed a sponge or a strip of gauze until the deep sutures are inserted.

Suture. The peritoneum is loosened and bent over; resection of the musculature is not necessary. The main point is the close double suture of the uterine wound: deep stitches embracing the peritoneum and muscular structure, but not the decidua, best of flexible silver wire, eight to ten in number; superficial "sero-serous" sutures, doubly perforating each wound margin, of fine silk, ten to thirty, according to circumstances. In the absence of silver wire, the deep sutures may be made with strong aseptic silk. In opposition to Schauta, the reader could not admit that silver wire would continue the sole material for the deep suture.

Then follow: *washing* of the uterus (sublimate 1:2,000); *powdering* the line of the suture with *iodoform*; *dropping into the abdominal cavity* only after every bleeding point has been secured by ligature. *Toilet* of the abdominal cavity only where special indications are present. *No drainage*; abdominal wound

closed with button suture; dusting with iodoform. Thin adhesive-plaster dressing, so that the uterus can be closely watched. Ice-bladder to the abdomen; injections of ergotin. After-treatment as inactive as possible. According to this method of the reader, 30 operations have thus far been performed, with 21 recoveries (73.3%). In the clinics of Leipzig, Dresden, and Innsbruck, there were 19 cases with 18 recoveries (94.7%).

DR. SCHAUTA.—If the placenta is encountered in front, it is not immaterial whether we penetrate it directly or detach it. He thought it preferable to perforate it directly with the hand; because, in lateral detachment, more vessels are opened, and the loosened lobe crowds into the wound. The hand, and not the knife, should penetrate the placenta; then the funis can be readily felt, while the knife might possibly sever it and cause great loss of blood to the child. The fetus should be extracted by that part which is nearest to the wound; in head presentation by the feet, in footling cases by the head. He would not do without the rubber tube, owing to the great loss of blood which is entailed by the length of time consumed by the suture. Saenger himself had declared for the silver wire, because it holds the wound in better apposition than silk, as had been proven experimentally. The cases stitched with silk show a greater fatality (7 out of 10) than those treated with silver wire.

DR. FREUND, JR. (Strassburg), related a case of Cesarean operation in which, despite the deep uterine suture, the hemorrhage was so profuse that the rubber tube had to be reapplied and the Porro operation performed. Then the tube was taken off and the stump dropped. Death from peritonitis. The extirpated uterus was exceedingly thin and only fourteen centimetres long.

DR. KALTENBACH expressed himself in favor of the improved classical operation. The sero-serous suture had been performed in laparotomies even before the old Cesarean section had been modified. Saenger's merit is, that he has rehabilitated the old Cesarean section, in comparison with the Porro operation, and has extended the indications for the operation in view of the better results obtained. Of Saenger's method nothing had remained but the sero-serous suture. Very good results can also be obtained with thoroughly disinfected silk.

DR. FEHLING likewise spoke in favor of the improved Cesarean section. He would turn out the unopened uterus through the abdominal incision, since the length of the latter and prolapse of the intestines are of no consequence. Then the elastic tube can be applied before the uterus is opened—a matter of importance especially in reference to the needs of the general practitioner. He, too, would extract the child by that portion which is pressed into the wound. Silk he thought to be the suture material of the future; sewing with silver wire has to be learned, particularly the knotting of it. Good silk, provided it do not project into the uterus, cannot be dangerous.

DR. ZWEIFEL was likewise in favor of the improved classical section, especially since there had been added the modification which does away with the resection. The Porro operation he would no longer employ.

DR. LEOPOLD believed it also more correct, particularly in view of the needs of the general practitioner, to turn out the uterus;

the abdominal incision would not thereby become excessively enlarged. The elastic tube is fastened with compression forceps, and a temporary abdominal suture inserted to guard against prolapse of the intestines. The child is not injured by the constriction. The loosening of the peritoneum is not essential. Should the wound tear during the extraction of the child, especially downwards, it is good practice to do some resecting, that is, to smoothe the wound. He sews with stout wire; the superficial sutures are of strong silk. The narcosis must be profound and undisturbed. With a view to guard against after-hemorrhages, he gives injections of ergotin. Atonic after-hemorrhages had not occurred in his cases. As he loosens the elastic ligature, he compresses the uterus with the hand, so as to excite a pain.

DR. KRUKENBERG, like Freund, had observed a profuse hemorrhage after the uterus had been sutured. The patient died. A clot the size of the fist was expressed from the uterus. At the autopsy, the anemia found was not great enough to explain the cause of death. The fatal issue may have been due to air-embolism and hemorrhage. He believed that atony of the uterus may occasionally render the employment of the elastic ligature dangerous.

DR. SCHAUTA lays the greatest weight on the rigidity of the suture material; he rejects silk, not because he fears infection, but on account of the mechanical injuries (too firm ligation, strangulation) inflicted on the tissues; he attempted to prove by a citation from Saenger's monograph that the latter had not prized the silver suture formerly as highly as at present.

DR. SAENGER replied that not only his papers, but his operations demonstrated that he prefers silver wire for the deep sutures. Schauta should not lose sight of the fact that he had at the same time employed the sero-serous silk suture. Silver wire alone also gives good results; Simon Thomas had obtained with it four recoveries out of six cases. It seemed Schauta did not dare to use the wire alone. The speaker claimed as his own merit that he had been the first to apply very numerous sutures, and to have shown that catgut—*i. e.*, absorbable material—should be avoided; he had also laid stress on accurate coaptation.

To Krukenberg he replied that he had given in his monograph an accurate collation of cases with Cesarean cicatrices, together with an analysis of their origin.

DR. WINCKEL inquired whether anybody was able to give information regarding the state of Cesarean cicatrices and silver sutures at the repetition of the operation.

DR. SAENGER knew only of the one case by Lungren, who describes the cicatrix as uniformly smooth, and says that the silver sutures looked as if they had just been inserted.

DR. WINCKEL exhibited a rabbit which had been successfully inoculated (subcutaneously) on the ear and back with the blood from the heart of a puerpera dead of external and internal erysipelas. He also showed specimens of the erysipelas cocci bred from the blood.

(To be concluded.)

REVIEWS.

HANDBUCH DER FRAUENKRANKHEITEN.—A HANDBOOK OF DISEASES OF WOMEN. Edited by DR. TH. BILLROTH and DR. A. LUECKE. Second entirely rewritten edition. Three volumes. Stuttgart: Ferdinand Enke, 1885, 1886.

Second Volume: NEW GROWTHS OF THE UTERUS. By PROF. GUSSEROW.—THE DISEASES OF THE OVARIES. By PROF. OLSHAUSEN.—THE DISEASES OF THE TUBES, OF THE LIGAMENTS, OF THE PELVIC PERITONEUM, AND THE PELVIC CELLULAR TISSUE, INCLUDING EXTRAUTERINE PREGNANCY. By PROF. BANDL.

Professor Gusserow's contribution claims two hundred and sixty-two pages. It is complete without unnecessary diffuseness. The etiology and anatomy of the various uterine tumors are entered into at sufficient length, and in the sections on treatment the different surgical methods receive the recognition which the experience of the majority of operators of to-day justifies. Since it is the question of treatment of uterine tumors which is of greatest importance and interest to our readers, we prefer to dwell here on this theme rather than on the less unsettled subject of etiology and symptomatology.

Of the many non-surgical methods of treatment of fibro-myomata of the uterus which have from time to time been proposed, such as the various salts of potass., arsenic, phosphorus, and mercury, there is but one which may be said to have any positive evidence in its favor, and this is the use of ergot subcutaneously, as first advocated by the late Professor Hildebrandt. By this method undoubted cures, even if few in number, have been recorded. In estimating the worth of the method from an analysis of the reported cases, it must be remembered, as Gusserow justly remarks, that in many cases reported cured there may have been an error in diagnosis. Hildebrandt himself admitted that in one of his cases he may have been dealing with an exudation rather than with a myoma. Gusserow's personal experience with the method has never resulted in seeing the disappearance of the tumor. The effect seemed to be principally an occasional diminution in size; and decrease in the hemorrhages, and such we take it has been the experience of the majority of gentlemen who have resorted to the method. In this country the elder Byford alone has obtained marked results—eighteen cures out of sixty-one cases. As a method, indeed, it has fallen far short of the hopes of its originator, and must be considered as purely palliative in those cases where treatment by surgical means is impossible or contra-indicated.

The treatment of fibro-myomata by electrolysis is dismissed in a few words by Gusserow, in his belief that, owing to the great dangers it involves, it has been abandoned. We question if this method has not still its sphere of applicability—to those cases, for instance, where the tumor is small and readily accessible. Freeman, of Brooklyn, has lately reported cures of small myomata by this method. The probability is, that in the future electricity will be resorted to more frequently in case of small fibro-myomata than it is at present, not necessarily by electro-puncture, however,

but perhaps through utilization of the caustic quality of the galvanic current, as is advocated, somewhat enthusiastically it is true, by Apostoli of Paris, reference to whose labors in this direction it might not have been amiss for Gusserow to have introduced here.

Passing to the operative treatment of myo-fibromata of the uterus, the method above all others which is gaining ground is removal of the ovaries and tubes. When compared with the more radical operation of extirpation of the growth, the figures are certainly in its favor. A very complete statistical analysis in this article shows a constant diminution in the mortality rate of castration from twenty-five per cent to ten per cent, whilst the lowest rate from hysterectomy is nearly thirty per cent. In considering the worth of the two operations, however, it is Gusserow's opinion that, whilst castration is effective in checking the hemorrhages, it has often scarcely any effect on the other symptoms—chiefly mechanical—due to the tumor, whilst total extirpation, if successful, will at once eliminate every symptom. He would, therefore, extirpate the growth whenever possible, reserving castration for those cases where extirpation is either impossible or else appears too dangerous. In the light of statistical data published since the writing of Gusserow's article, we believe that he would to-day feel called upon to pronounce more strongly in favor of oöphorectomy. Tait's mortality from this operation is only two per cent, whilst the best figures for hysterectomy is about twelve per cent (Keith). In considering these two operations in the light of Mr. Tait's figures, however, it is to be remembered that it is his habit to operate at as early a stage in the growth of the tumor as is possible. Unquestionably, in such an event, removal of the appendages is a simpler operation than hysterectomy when the myoma has attained vast dimensions. Until, therefore, operators are agreed as to the justifiability of interfering either by oöphorectomy or by hysterectomy with myomata in a medium stage of development, statistical data must remain very fallible as pointing to the pre-eminence of one or another of these operations. The truth of this statement is evident when we oppose the opinion of Gusserow—"The ideal and correct operation should ever where possible be extirpation of the myoma with the uterus, or without if possible"—against that of Tait—"Hysterectomy is a dangerous operation. . . . There is no choice between the operations." The difference between Gusserow (and he may be taken as a representative of the German operators, and, in a measure, of the Americans), and Tait, is that the latter would favor removal of the appendages before the tumor has reached such a size as to make extirpation imperative, whilst the former, recognizing that, in possibly the majority of cases, fibro-myomata of the uterus may never endanger the patient's life or render existence unendurable, would counsel waiting until symptoms call for operation. Here is a wide diversity in opinion which will require time and much discussion to settle. There is always danger to-day of over-operating, and the glamour of the brilliant results of a single operator should not be allowed to swerve our opinions in favor of operating in cases where the chances are great that palliative non-surgical methods will suffice to tide our patients beyond the menopause, when nature accomplishes the same end which Mr. Tait aims at through removal of the appendages.

The section dealing with the influence of fibro-myomata on preg-

nancy, labor, and the puerperium is very interesting and complete in its literature references. To the cases of labor complicated by fibroid where enucleation was necessary before delivery of the child, we would add Mundé's case, which is recorded in the ninth volume of the "American Gynecological Transactions."

In regard to carcinoma of the uterus, Gusserow, in accord with the large majority of operators, believes vaginal hysterectomy to be an eminently justifiable operation. His remarks on the indications for, and the steps of the procedure, do not differ from those which have been so frequently formulated of late years. The statistical data he offers are complete as regards European operators, but he is as silent in regard to the work of American surgeons as though with us the operation had never been performed. And the same remark holds true in reference to the results obtained here by the other less radical methods. The mortality from vaginal hysterectomy, as obtained from two hundred and fifty-three cases collected by Gusserow, is slightly lower than it has hitherto been stated by other investigators, namely, 23.3 per cent. Data in regard to recurrence are necessarily as incomplete and unsatisfactory in this as in other contributions. The time has not arrived as yet when the worth of this operation may be judged from the standpoint of radical cure, seeing that it is only of late years that the technique of performance has become settled and perfected, and that cases have been carefully selected with strict reference to suitability.

Within the space of four hundred and ninety-four pages, Prof. Olshausen offers us an admirable exposition of our knowledge in regard to diseases of the ovaries and their treatment. It would serve no useful purpose to critically analyze this contribution. Sufficient the statement that the reader will find ample information in regard to the genesis of ovarian tumors, their symptomatology, the details of operative procedure, and methods of overcoming complications. There are certain questions in connection with diseased ovaries and their treatment, however, which, being matters in dispute, we would call attention to here in the light of the opinions enunciated by such a close observer and successful operator as Olshausen.

First in regard to exploratory puncture or incision. Olshausen prefers the latter to the former, in this respect being in agreement with Lawson Tait. In case of large ovarian tumors, puncture, under strict-antiseptic precautions, may be said to be as free from danger as incision; in case, however, the tumor turns out to be a dermoid cyst, or an ovarian cyst, the contents of which are purulent, then the experience of most operators justifies the assertion that puncture may be a very dangerous procedure. For these reasons Olshausen is each day inclined to resort less to puncture for diagnostic purposes, and to substitute the exploratory incision, which, if the conditions be found favorable, may at once be followed by laparotomy. With this opinion many American operators will unquestionably agree. There are others, however, of equal prominence, who still prefer exploratory puncture as a diagnostic measure, for the reason that as yet they have never happened to see any of the dangers which may follow on the procedure. In view, however, of the fact that puncture must be granted to be not free from possible untoward results, and in view of the fact that an exploratory incision is, under strict precautions, practically

free from danger, there can be little question but that before long this latter procedure will uniformly be favored over the former.

Passing to the treatment of ovarian cysts, Olshausen dismisses the non-surgical methods, in particular electrolysis, in a few pages as being of but little, if of any, value. He grants the possibility of causing, through electro-puncture, diminution in size of ovarian cysts, and, in case of unilocular cysts, he admits the chance of cure; but he is of the opinion that such cases will ever remain exceedingly rare, and would limit the applicability of the methods to cases where, for one or another reason, operative interference is impossible. The surgical treatment of these cysts is considered at length under the headings: 1, Puncture; 2, Puncture Followed by Permanent Drainage and Incision; 3, Injection of Stimulating Fluids; 4, Extirpation. As regards the operation of ovariectomy, Olshausen strongly favors the intraperitoneal treatment of the pedicle, and has entirely given up the use of drainage as being unnecessary, and even dangerous. Since 1882, he tells us, he has operated one hundred and twenty-four times without drainage, and has not lost a single case from septicemia. Even in case of an incomplete operation, in the sense that it is impossible to remove all of the cyst, he dispenses with the drainage tube, simply dropping the cyst remnant and sewing up the abdominal incision. Of eight cases of the kind, he has lost but one, and she died on the twenty-fifth day from exhaustion, the result of an uncontrollable diarrhea. This whole subject of the removal of ovarian cysts, the possible complications, and the methods of overcoming them, is presented in a concise and most interesting manner. In speaking of foreign bodies left in the abdomen after laparotomy, the very few cases of which Olshausen has heard would have been considerably increased had he referred to the ninth volume of the "*American Gynecological Transactions*," where Wilson, of Baltimore, describes fifteen unpublished cases, five in this country and ten in Europe.

With the exception of Hegar, German operators have not resorted to oöphorectomy to the extent to which it has found favor here. Olshausen considers the subject judicially, and it seems to us that the limitations he places on the operation are very just. The indications he formulates as follows: 1, Hernia of the ovary, where reduction is impossible, and suffering great; 2, Absence of the uterus, or rudimentary condition of this organ, accompanied by amenorrhea, and yet in the presence of ovulation as evidenced by marked molimina and reflex nervous symptoms; 3, Disease of the uterus accompanied by hemorrhages or pain which endanger or make life unendurable. Under this heading are classed interstitial fibroids of the uterus, where the organ is about the size it reaches at the fourth month of pregnancy. Olshausen thinks, however, that even in such cases supravaginal amputation will gain in favor, seeing that every day, with improvement in technique, the dangers grow less, and ultimately the operation will become as safe as ovariectomy now is; 4, Cases of oöphoritis and peri-oöphoritis—conditions which the tendency is growing to consider due to tubal disease. It is in these cases, particularly, that Olshausen finds it most difficult to decide as to the justifiability of the operation. He cannot go to the extremes to which Hegar does. Because an ovary is a trifle larger, or smaller, or more sensitive than normal, is no excuse for oöphorectomy. Obscure ovarian pains may as well depend on a pathological pro-

cess as on a neuralgia of the ovary. "In the latter instance castration will prove just as effective as removal of a tooth in case of trigeminal neuralgia." 5, Diseases of the nervous system which stand in close relation with the sexual functions. This indication is the one which is most liable to abuse. Our knowledge of the diseases of the nervous system is as yet too imperfect to allow us to formulate the etiological connection between such diseases and the ovary. In this connection Olshausen again records himself as being in disaccord with Hegar, who is inclined to resort to oöphorectomy very often in such cases. It will be seen, indeed, that Olshausen, whilst no pessimist in regard to this operation, would limit the indications within very narrow bounds, and in this respect he is in full accord with the majority of American operators. He has himself performed the operation only twenty-one times, and thirteen of this number were cases of uterine myoma; his mortality rate of nineteen per cent occurring entirely in this latter series of cases.

Prof. Bandl's article is decidedly the most interesting in this volume, dealing, as it does, with those diseases of the female generative organs which are the special theme of discussion to-day. There is no subject of greater importance to the practitioner than pathological alterations in the tubes. The difficulties in the way of correct diagnosis are great; and the diagnosis once reached, the question of treatment is vital to the interest of woman. It is our belief that there has been entirely too much surgery in this direction, and too little reliance on medical methods. The pendulum, however, is beginning to swing towards the side of conservatism, and the day is not far distant when fewer tubes will be removed, and these in the presence of something more definite than local pain and bogginess. The crucial indications for removal of the tubes should be evident distention of these organs, accompanied by pain which makes life unendurable, or these symptoms accompanied by recurrent attacks of peritonitis. Unquestionably such are the signs which ordinarily have impelled the majority of surgeons to laparotomy, but unquestionably also the operation has been abused by lesser lights in the face of indications less urgent, where appropriate local treatment, in particular the galvanic current, might have resulted in cure. In these pages the student will find a very complete account of tubal diseases and their diagnosis, as well as ample conservatism in the views expressed in regard to operation. The operation is stated to be much more difficult and far more dangerous than the ordinary ovariectomy, the greater danger being evidenced by the fact that in the practice of A. Martin five deaths in eighteen cases occurred, and four of these from sepsis. An impartial estimate of the danger, as deduced from a study of the results obtained by leading English and American operators, would lead us to think that this is hardly in excess of that following on ovariectomy.

Passing to the subject of extrauterine pregnancy, Bandl's article has become classic, and calls for but little notice at our hands. Under the head of the abdominal variety, we would lay renewed stress on the value of the absence of intermittent uterine contractions as an aid in diagnosis. We would make the general criticism that Bandl would have added to the value of this portion of his contribution, had he utilized for this edition papers which have appeared since the publication of the first. For instance, under the head of etiology, he repeats the assertion that ectopic gestation is rare,

since Braun and Spaeth found only five cases in sixty thousand patients; and yet Garrigues has shown us that the condition is far more frequent; and again, when speaking of the treatment of tubal pregnancy, it is inexcusable for him to dismiss in a few lines the method of all others which has given the best results, and never, we believe, a failure—electricity. That this method has never been tried in Europe is no proof that it is worthless, but rather, in face of the facts, it is proof of mental obliquity. Further still, it would not have been improper to state that laparotomy in case of rupture of the cyst was suggested long ago by an American, Stephen Rogers, that another American, Thomas, has long been in favor of the procedure, and that still another American, Briddon, resorted to it. Evidently, we must blow our own trumpet where our German brethren are concerned! We are pleased to find Bandl condemn puncture of the sac, as well as, less emphatically it is true, the injection of narcotics. Since then Bandl does not favor these latter methods, and cannot, from what he hears of electricity on this side of the water, be induced to try it, the only method of treatment remaining is extirpation of the sac, and this he advocates wherever the diagnosis is certain. Lawson Tait has recently expressed the same opinion. It is safe to say, however, that Americans will choose the safer and just as radical method—the application of faradism or galvanism. In case of abdominal gestation, Bandl very correctly lays stress on the statement that, in the choice of operation, laparotomy should take precedence over vaginotomy whenever the greater part of the sac or of the fetus lies above the pelvic brim. After the death of the fetus, instead of the counsel to wait for symptoms before resorting to laparotomy, in face of the high mortality rate which follows expectancy, Bandl would favor earlier resort to operation, in which respect Lusk has very recently similarly recorded himself.

The second part of Bandl's contribution concerns the diseases of the ligaments, pelvic peritoneum, and cellular tissue. He makes a sharp distinction between cellulitis and peritonitis, in accordance indeed with the belief entertained by the majority of gynecologists up to very recent date. There can be no question, however, but that this entire subject will have to be rewritten in the light of the knowledge acquired from laparotomies. Cellulitis is with us less frequently diagnosticated than it was a few years ago, and in its place we recognize that we are in reality dealing with a peritonitis—the result of tubal or ovarian disease. As an etiological cause of peri- and parametritis Bandl considers gonorrhea the most frequent. In speaking of the treatment of the manifold reflex and psychical disturbances which have their outcome from chronic inflammatory remnants, the following sentence deserves emphasis: "Although we may remove ovaries and tubes and portions of the broad ligaments, yet there may remain indurations in the cellular tissue, which, through compression of nerves, will cause the identical symptoms for the relief of which we had resorted to operation." Such is the secret of the symptoms still complained of by many a patient who has been subjected to, but but not benefited by, laparotomy.

This contribution concludes with a very satisfactory account of hematocele and hematoma. An excellent feature of the contribution are the numerous woodcuts, especially in connection with tubal diseases, which illustrate the text. By mistake of the printer, the pages numbered from 235 to 250 inclusive are duplicated, and

we note an occasional error in the spelling of proper names—*Loveing* for *Lovering*, *Landes* for *Landis*, and *Matheus* Duncan for *Matthews* Duncan.

EGBERT H. GRANDIN.

DISEASES OF THE DIGESTIVE ORGANS IN INFANCY AND CHILDHOOD, with chapters on the Investigation of Disease, and on the General Management of Children. By LOUIS STARR, M.D., Clinical Professor of Diseases of Children in the Hospital of the University of Pennsylvania; Physician to the Children's Hospital, Philadelphia, etc. With lithographic plate and other illustrations. Pp. 355. P. Blakiston, Son & Co., Philadelphia, 1886.

Wisely beginning with a chapter on the investigation of disease, the work successively treats of the affections of the mouth and throat; of the stomach and intestines; of caseous degeneration and tuberculosis of the mesenteric glands; of affections of the liver and of the peritoneum; concluding with a section on the general management of children. It is the author's intention "to give prominence to a class of disorders constituting a large proportion of the ailments of childhood, but often too briefly considered in works on pediatrics."

Considering that, for the successful treatment of the disease of the digestive organs in infancy and childhood, "attention to the general regimen is quite as important as the administration of drugs," more attention is paid to hygiene and dietetics than to medicinal measures; this, however, without neglecting any important point. Clear and fresh in style, with subject matter interesting and instructive, the work throughout is eminently practical, bears evidence of great painstaking and personal knowledge and experience on the part of its author, is one that will amply repay careful study, and one that should be known to every one who has occasion to treat the ailments of children.

BROOKS H. WELLS.

THE PRINCIPLES AND PRACTICE OF SURGERY. By FRANK HASTINGS HAMILTON, A.M., M.D., LL.D., etc. Illustrated with four hundred and seventy-two engravings on wood. Third Edition, revised and corrected. New York: Wm. Wood & Co., 1886, pp. 964.

While this work stands in the front rank as one of the most reliable, concise, and conservative treatises on modern surgical procedures, a book which should be in the hands of every student and of every practitioner, and which we trust will continue to maintain its well-earned place in the profession's estimation, yet it stands in one respect a fulfilment of the prophecy of its author, as stated in the preface of the second edition, that no one man could in the future write a complete treatise on surgery. The defect lies in the chapter which it is the province of this JOURNAL to review, the forty-seven pages devoted to the consideration of gynecic surgery, and which, so far as the value of the book is concerned, had better have been omitted. So immense has been the progress of this particular branch of surgery, so radical the changes in operative methods and procedures, and so complete the reverses of professional opinion, that it is impossible for a general surgeon, one not making these operations a specialty, to decide authoritatively and correctly on the points at issue. Many of the arbitrary opinions given in this chapter have been formed, evidently, not from practical experience with the procedures de-

nounced, but from preconceived notions of surgical right and wrong. Thus are the unqualified denunciations of hysterectomy, of Alexander's operation for shortening the round ligaments, and of the operation for primary perineorrhaphy.

In some other respects the chapter is behind the times; the statistics of mortality after oöphorectomy are those published in 1881 and are much too high (18.72%), increased operative skill and improved methods having now reduced it greatly; no mention is made of the method of diagnosis of ovarian cysts by chemical and microscopical examination of their contents; we are advised not to include the peritoneum in our suture when closing a laparotomy wound; we are advised to excise "*ovula Nabothii*" when simple scarification and application of tr. iodi is sufficient for a cure; in amputation of the cervix for malignant degeneration, "the neck of the womb is seized with the vulsellum, drawn outside the vulva, and removed with a strong pair of scissors or the knife," no mention being made of the important supravaginal operation, of the use of the galvano-caustic loop, or of palliative treatment by the curette or zinc chloride; after a Cesarean section done in the manner here indicated we should be much surprised if our patient recovered; it is noted that electricity has occasionally (*sic*!) been successfully employed in the destruction of an extrauterine fetus; Emmet's operation for lacerated cervix, its indications, and the after-treatment, is described in a dozen lines; the treatment of urinary fistula by Bozeman's method—which few besides its author use now—is well described, though entirely too much space is given to it when compared with other more important subjects which have been over-condensed and cramped.

The attempt has been made to measure the sea in a peck basket, and naturally it has failed.

BROOKS H. WELLS.

TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF LONDON. Vol. XXVII., for the year 1885. Eighteen lithographic plates, thirteen woodcuts. Pp. 332. London: Longmans, Green & Co., 1886.

While this volume is of interest, as showing what has been done in obstetric and gynecic work in London during the past year, it contains but few papers of any great value to American readers.

DR. MATTHEWS DUNCAN occupies more than his usual number of pages with three papers on his favorite disease, lupus (syphilis?) of the female generative organs. These papers, which cannot be regarded as at all conclusive, treat of lupoid hypertrophy, ulceration, and inflammation, the first two being made up chiefly of case-reports, each case being illustrated by a life-size chromolithograph representing the gross appearances, but entirely omitting those minute details which would so greatly have enhanced their value; as they now stand, the conditions shown bear a very close resemblance to some of the lesions of tertiary syphilis and chancroid. Cases showing similar lesions and similar symptoms to those described in Dr. Duncan's paper, but with undoubted evidence of previous syphilitic poisoning, can be found not infrequently in the venereal wards of any of the city hospitals.

The paper on extirpation of the entire uterus, by WM. A. DUNCAN, is the most valuable that the book contains. First reporting two cases of his own, where he had excised the uterus per vaginam, he then discusses the relative advantages of the vaginal and abdominal methods, the ultimatum being in favor of the former.

In a table of 137 cases of abdominal extirpation, which he had collected, there were 99 deaths (72%); while in 276 cases of vaginal extirpation there were only 79 deaths (28.6%). Then follow some remarks on various details of the procedure and on its indications and contra-indications, supra-vaginal amputation of the cervix, its results and mortality being incidentally discussed. In concluding, the author weighs the facts, pro and con., urges the paramount importance of an early examination with the curette and microscope in all cases of doubtful uterine disease, and states that where cancer can be detected in the body of the uterus, or in the mucous membrane of the cervix, then extirpation may be resorted to with reasonable prospect of prolonging life; but in *all* cases of cancer affecting the vaginal position of the cervix, and, *à fortiori*, when there is the least implication of the vaginal walls, that ablation of the uterus is an unjustifiable procedure, when we can gain nearly (26½% as compared to 30%) as good results from supra-vaginal amputation, the immediate risks to life from which are four times less.

The discussion following the paper is valuable as showing the opinions of men like Williams, Thornton, Doran, Playfair, Hicks, Spencer Wells, Grailey Hewitt, Priestley, Galabin, and Edis, some of whom condemn the operation, while others agree in the main with the author of the paper. The operation, not wholly condemned, is still *sub judice*, though the cases for which it is acknowledged to be suitable are few and far between.

Other papers of value are two by DR. JOHN WILLIAMS, one on the circulation in the uterus, with some of its anatomical and pathological bearings, and on serous perimetritis, with a third by DR. ERNEST HERMAN on the suppuration and discharge into mucous cavities of dermoid cysts of the pelvis.

BROOKS H. WELLS.

LECTURES ON OBSTETRIC OPERATIONS, INCLUDING THE TREATMENT OF HEMORRHAGE, AND FORMING A GUIDE TO THE MANAGEMENT OF DIFFICULT LABOR. By ROBERT BARNES, M.D. Lond., F.R.C.P. Fourth Edition. Illustrated with one hundred and twenty-one woodcuts. Pp. 486. Philadelphia: P. Blakiston, Son & Co., 1886.

"The description of the instruments, the application of the forceps, cephalotripsy, embryotomy, Cesarean section, the practical reflections on narrowing and malformation of the pelvis, ruptures of the uterus, placenta previa, hemorrhage, and, in fact, all the grand questions in obstetrics are treated with accurate good sense. At each instant, by some remark or other, is revealed a superior mind, ripened by having seen much and meditated much. Certain judgments doubtless will be questioned, some operations contested; but these lectures will none the less remain interesting, instructive, useful; and will prove once more that the fatherland of so many celebrated men, as Chamberlin, Smellie, Denman, Burns, Ramsbotham, Simpson, and many others, possesses to-day their worthy successors."

These words, the verdict of Pajot, taken from his introduction to the French version of this work, can most truthfully be applied to this, the fourth English edition.

It would be superfluous to give a thorough analytical and critical review of a book so well known, especially as the operative procedures, the treatment of hemorrhage, and other important

points discussed here *in extenso* are given in a more condensed, though practically identical, form in the author's "System of Obstetric Medicine and Surgery," so that the review of that work, which has already appeared in these pages (Feb., 1866), can be in the points at issue applied to this.

To one who has the larger work of Barnes, this volume is a luxury, not a necessity; to one who is not fortunate enough to possess the former volume, this latter is invaluable.

BROOKS H. WELLS.

ABSTRACTS.

1. Furst: A few Cases of Tumor of the External Generative Organs (*Archiv f. Gyn.*, XXVII., 1).—I. *Polypoid Fibroid of the right Labium Majus*. R., æt. 40; married eleven years, two children. During the first pregnancy noticed a slight elevation of the lower surface right labium. At end of this pregnancy, had attained size of a Malaga grape, was covered by skin, not sensitive. At the beginning of menstrual periods, this tumor became fuller, thicker, and more sensitive, returning to its former size after the period. When F. saw patient, the tumor was pediculated, the pedicle as thick as an average lead pencil, sensitive and pulsating. Tumor was 6 cm. long, and 13.5 cm. in circumference, not fluctuating, here and there eroded. The tumor was successfully removed, and examination proved it to be a soft polypoid fibroid. II. *Sarcoma (myoma?) of Left Labium Minus*. G., æt. 38, eleven children, last delivery five years. For six years had noticed a tumor, size of hazelnut, apparently originating in inguinal region, and sinking between the labia. For two years, tumor had grown rapidly and had become excessively painful, and for six weeks had been blackish in color. This tumor did not alter at the menstrual periods, did not interfere with function of bladder. On examination by F., tumor occupied left lab. m., the size of an emu-egg. It apparently emanated from inguinal ring, but this was determined as free. It was hard and non-fluctuating, and gave to the finger the sensation of incapsulation. It was successfully removed, and microscopically it consisted of long, slender, spindle-form epithelial cells. These cells were arranged in nests, separated from one another by few vessels and little connective tissue. III. *Prolapsed Vaginal Cyst*. G., æt. 36; married eight years; six children. For five years had noticed a painless tumor springing from lower third of vagina, growing gradually to size of a goose-egg, and simulating a prolapse of vagina. This tumor had interfered more and more with her labors, and had latterly become painful. It sprang from post. vag. wall, and was slightly pediculated. Examination by rectum eliminated rectocele. The diagnosis of cyst was made, it was removed, and its contents were mucus, epithelial cells, fat, no crystals. That in this case F. was not dealing with an unobliterated Gärtner's duct, the absence of cylindrical epithelium and the site (post. vag. wall) prove.

E. H. G.

2. Fleischman: Two Cases of Use of Constant Current for Induction of Premature Labor (*Archiv f. Gyn.*, XXVII., 1).—The conclusions

reached from these cases are: In both cases the constant current evoked contractions, although it was not possible to say what share, in this effect, the irritation (local) connected with galvanization had. The galvanization (even as in cases reported by Bayer) did not harm either mother or child, although in the second case the anterior cervical lip was slightly cauterized. In both cases the effect was most marked when cathode lay in posterior cul-de-sac and anode was placed over lumbar vertebræ—better, in other words, than when cathode was placed in cervical canal and anode over fundus. Possibly Frankenhauser's ganglion will account for this. In addition to other reasons for preferring galvanization to other methods of inducing labor, the danger of infection is reduced to the minimum. The use of the constant current for this purpose, it is hoped, will be put to renewed test.

E. H. G.

ITEMS.

1. DR. PIERRE BUDIN, who has entirely recovered from his severe illness of last year (he was operated upon by Lawson Tait for an echinococcus of the liver on May 7th, 1885), has received the well-merited distinction of the cross of the Legion of Honor. Prof. Budin is assisting Prof. Tarnier in completing his large work on "Obstetrics," of which Volume I. appeared in 1882, and the continuation of which was suspended by the death of the then co-editor, Prof. Chantreuil.

2. PROF. TARNIER has received the, in scientific circles, unusual compliment of being elevated to the rank of Commander of the Legion of Honor.

CORRECTION.

THROUGH some unaccountable error, a sentence in Dr. Fry's paper on "The Value of the Antiseptic System in Private Obstetric Practice," which appeared in the April number of this JOURNAL (p. 339, line 28), was made to read, "The antiseptic plan so ably advocated by Paul Bar in France, and *copied* by Garrigues in this country," instead of, "and by Garrigues in this country."

Bar's book, published in France in the latter part of 1883, did not reach America until 1884, while Garrigues' plan was instituted in the New York Maternity Hospital October 1st, 1883, and his first experience with it related to the New York County Medical Society, December 21st, 1883, and published in the New York *Medical Record*, December 29th.

do an ovariectomy, as also my old friend, Prof. Chrobak, both having cases on hand for the coming week, my presence being desired at Breslau, by telegraph from Prof. Fritsch, with whom I had spent a most pleasant day at Halle, in 1881.

Fritsch operates in the light and commodious operating-room of the Royal Gynecological Clinic, which is an old building, but which he expects to see replaced by a new one very soon.

Antiseptic precautions *lege artis*, except spray. A convenient contrivance was a low movable stand behind the operator, containing two large porcelain pails and a basin, for clean water and washing the hands; also several low stands with glass pans for instruments fitted into them, useful for operations in the sitting posture.

CASE XIV.—FRITSCH. *Dermoid Cyst of Pelvic Cavity. Sac sewed in Wound. Ovaries Normal.*

June 28th, 7 A.M. Large incision in usual manner. Apparently universal adhesions, but finally cyst found to proceed from the cellular tissue between the layers of the broad ligament, and therefore not enucleatable. Both ovaries were healthy. The sac contained hair, and exquisitely formed teeth. As much as possible of the sac was cut away, and the edges were stitched to the abdominal wound. The sac was tightly packed with iodoform gauze, which was to be the future dressing, with corr. subl. irrigation.

In making the abdominal incision, careful dissection was required, as the bladder was found adherent and drawn up almost to the umbilicus.

Prof. Fritsch then performed a vaginal hysterectomy for cancer, which I shall describe, with two others, later on.

Returned to Berlin, I saw the laparotomies by Schroeder and Martin already described under dates of June 29th and 30th, and on July 1st was present at an ovariectomy by Dr. Veit, at his private clinic.

CASE XV.—VEIT. *Ovarian Polycyst. Previous, probably recent rupture of the Cyst, but no Peritonitis.*

July 1st. The case presented no difficulties whatever; no drainage was used, as the cyst-fluid appeared unirritating. The pedicle ligature and abdominal sutures were of catgut.

Veit distinguishes himself from other laparotomists in three important points:

1. He uses exclusively catgut, instead of silk, as also in trachelorrhaphy and colporrhaphy, and has never known it to slip or dissolve too soon, if prepared in the following manner. The gut is made by the druggist Drohnke, No. 25 Potsdamer

Strasse, Berlin, and comes in various sizes, Nos. 2, 3, and 4 being sufficient for most purposes. The gut is placed in pure oil of juniper-wood for twenty-four to forty-eight hours, and is then preserved in a mixture of pure alcohol and glycerin, ten per cent of the latter. Absolutely no water should be added, or be allowed to touch the gut at any time; the threaded needles should be kept in a pan with pure alcohol during the operation. Water swells the gut, and makes it brittle. Prepared and kept as Veit does, it lasts in the tissues from thirteen to sixteen days, sufficient for all operations, plastic or not.

2. He uses no dressing on the abdomen after laparotomy but plain absorbent cotton fastened down by collodion-painted all around the border. This is not removed until the stitches are removed.

3. To secure rest of the abdominal organs and walls, and approximation of oozing surfaces, he places a flat bag of sand containing a disk of iron, over the cotton dressing, the whole weighing about twenty pounds, and leaves it on for about forty-eight hours. After that no compressory dressing is required.

Veit is known, among other things, for his series of six laparotomies for early tubal pregnancy, the last five of which were successful.

From Berlin, I went to Dresden, where my friend, Prof. Leopold, showed me a laparotomy for what turned out to be a non-removable malignant tumor of the right ovary; and then a vaginal hysterectomy for cancer, to be described later on.

Leopold is very antiseptic. After scrubbing his hands most thoroughly with soap, and washing them in corr. subl. sol., he made two imprints with his nails on a film of gelatin on a glass plate kept in a close chamber, in order to see whether after so thorough a disinfection there were still micrococci in the nail prints on the gelatin. The result I did not learn. But no spray.

CASE XVI.—LEOPOLD. *Exploratory Incision; Non-removable Malignant Tumor of Right Ovary and Broad Ligament.*

July 2d. Long incision in usual manner. Closure of wound by silk sutures. Usual dressing.

After a short stay at Carlsbad, Franzensbad, and Marienbad, I proceeded to Freiburg, in Baden, where I was very cordially received by Prof. Hegar, who showed me a laparotomy for a solid ovarian tumor. He operated in an upper amphitheatre of the clinic, with two assistants, two nurses, and but two spectators. Usual antiseptics, but no spray.

He is a careful, not very rapid, but withal very skilful operator, not differing in his methods from other German operators, except in his preference for the elastic ligature, even when dropping the pedicle; and for the extraperitoneal method of treating the stump after hysterectomy for fibroids, in opposition to the Berlin practice of careful suturing and dropping it.

CASE XVII.—HEGAR. *Large Myxo-sarcoma of Ovary.*

July 8th, 8 A.M. Girl of 22; growth of about eight months' development; right ovary. Small pedicle. Thin elastic ligature through and around pedicle; ends tightly drawn, and tied together with silk. Removal of tumor, sixteen pounds weight. Pedicle dropped. Closure of abdominal wound; silk sutures.

Hegar's assistant and son-in-law, Dr. Wiedow, showed me the former's operation for rectocele and prolapsus uteri, described in "Hegar and Kaltenbach," Fig. 218, and in my "Minor Surgical Gynecology," Fig. 313. Fine wire sutures were used, twisting each before introducing the next. The restoration of the posterior vaginal wall, perineum, and vaginal outlet was certainly most perfect, and influenced me greatly in favor of the operation.

From Freiburg, I went to Berne, where my old friend, Prof. Peter Müller, showed me an oöphorectomy for dysmenorrhea, the only operation of the kind I saw in Germany. The distinct indication was long-continued suffering during menstruation in a parous woman, which resisted all other remedies, and rendered her unable to work. The gynecological clinic is in the Maternity building, beautifully situated on a hill overlooking the town. Septicemia was almost unknown in the building since proper measures had been adopted.

A very useful contrivance was a long flat pan attached under the zinc slab of the operating-table to catch the refuse water and fluids. The operating-table itself was placed in a large pan of zinc on the floor, the operator and assistants standing on slats in the pan. In this way, the necessity of wearing rubber shoes and the wetting of feet are avoided, which latter does not add to the pleasure of the operation, as the gentleman who stood for an hour in bloody corrosive sublimate water in Martin's operating-room with me during the three laparotomies already described will doubtless testify. As Martin himself said, he could not have the floor cleaned between the operations, as the nurse in attendance must not soil her hands, and he was short of nurses.

CASE XVIII.—MÜLLER. *Oöphorectomy (Castration) for Dysmenorrhea from Recurrent Oöphoritis.*

July 10th, 6:30 A.M. Short incision; grooved director; silk ligatures to pedicles; Paquelin. Ovaries not particularly enlarged or diseased to the naked eye. Both tubes greatly congested, but not enlarged; no adhesions.

Compression of the first ovary with forceps while applying the ligature elicited an expression of pain from the deeply narcotized patient, and a sudden pallor of her face was noticeable. I have seen similar signs of distress and shock before, on compressing the ovary during oöphorectomy, and I cannot but think that we should be careful to avoid bruising so sensitive and vital an organ so long as it is still connected by nerves and vessels with the rest of the body. Once the ligature applied, of course all transmission of reflex shock is obviated.

This was my last abdominal section on the Continent. I will here briefly describe three operations for complete vaginal extirpation of the cancerous uterus which I saw performed by Fritsch, Schroeder, and Leopold.

1.—FRITSCH. June 28th. *Epithelioma of Cervix.*

Virgin, 41 years of age; vagina very narrow; split posterior vaginal wall and half of perineum. Patient in gluteo-dorsal decubitus; Simon's specula. Uterus dragged down by blunt-pointed vulsella devised by Fritsch, which do not tear out, as the sharp points do. First incision with knife on left side of cervix, as far from diseased tissue as practicable; then at once silk ligature with sharply curved short needle, ligature tied at once and ends left long; then another incision and another ligature, deeper still, and thus, step by step, ligature and incision, each cut being guarded by a preceding ligature through the tissues until the region of the ovarian artery was reached and tied, but not divided. Then the same procedure on the right side, the last ligature around the apex of the broad ligament on each side being tied, but the tissue not divided until the anterior peritoneal pouch is opened, which is now done; the fundus uteri is seized by a vulsellum, and drawn through forwards. A small sponge with string is slipped into the peritoneal cavity. Then the peritoneal and vaginal edges are united by sutures, all of which are left long. Now, at last, the final attachment of the uterus to the broad ligaments is divided with scissors, and the uterus is entirely free except posteriorly, where it is still connected with the peritoneum of Douglas' pouch and the posterior vaginal wall. This attachment having been cut through, the uterus is removed and the peritoneal and vaginal edges are quickly brought together, and hemorrhage arrested by deep sutures, which are also left long. Careful search is now made for bleeding points, which are caught up and ligated or secured by deep sutures. The ligatures to the stumps of the broad liga-

AMPUTATION AT THE HIP JOINT FOR MORBUS COXÆ; WITH A CASE AND A SPECIMEN.¹

BY DONALD MACLEAN, M.D.,

OF DETROIT, MICH.

The points which I desire especially to enforce by the following case are:

First.—That there are cases of hip joint disease which, though utterly desperate so far as all the ordinary procedures are concerned, may still be rescued and restored to health by the extreme measure of *amputation at the hip joint.*

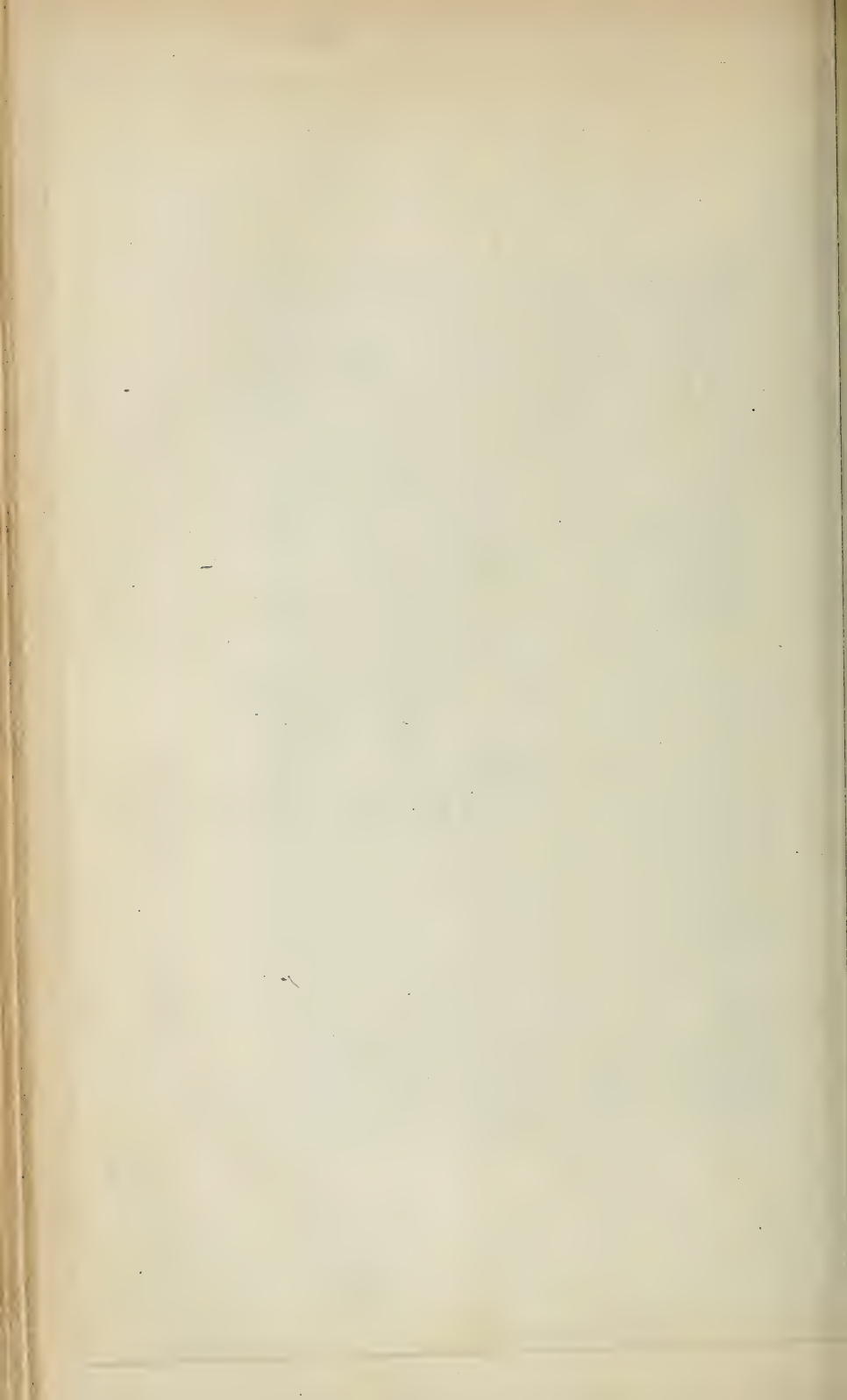
Second.—That the operation of resection, if performed at all, should be performed at a much earlier stage of the disease than has hitherto been customary.

Third.—That with proper precautions, the operation of amputation at the hip joint for disease is a safe and satisfactory procedure.

Case.—C. S. B., æt. 17, from Muncie, Ind., came to my public clinic at the University of Michigan January 5 of the present year, and in response to inquiries made the following statement:

Eight years ago, he fell on the ice and sustained a contusion of the left hip. Still, it was not until the following winter that he became so much disabled as to require the aid of a cane in walking. Liniments and electric baths were prescribed at that time, but of course they did not do any good. Two years later extension by means of the weight and pulley was resorted to, also an extension splint, but in spite of these very judicious and rational measures the disease continued to progress.

¹ Read before the Surgical Section of the American Medical Association, at the Thirty-Seventh Annual Meeting.



ments, which, having been passed through the tissues, are not in danger of slipping, serve as guides to the operator, who, as a last precaution, stitches these stumps to the edge of the vaginal incision on each side, and thus prevents their slipping out of reach in case they should bleed later on. The sponge is now removed. No intestines have appeared. All the ligatures are bunched together, and carried out of the vagina, which is stuffed with iodoform gauze. No drainage tube. The comparatively small wound in vaginal roof left open. Perineal wound stitched. The ovaries were at first not touched, but as one prolapsed, it, with its tube, was ligated and removed; the other was left undisturbed. As a rule, Fritsch does not remove them unless they drop down. Hardly a few tablespoonfuls of blood were lost during the operation, which lasted an hour, and was unusually difficult on account of the narrowness of the vagina. There was no shock whatever.

I cannot imagine a safer and less laborious way of performing this operation. The one great danger, concealed hemorrhage, which cost two of my cases their lives, is certainly completely obviated by this manner of always securing a part by deep ligature before dividing it. The ligatures were passed only on the distal side, the traction on the uterus appearing to prevent hemorrhage from the organ itself.

2.—SCHROEDER. June 30th. *Cancer of Body of Uterus, with Cancer of One Ovary.*

Circular incision all around vaginal vault, firm downward traction of uterus. Deep ligatures on left side, then on right side, opening of Douglas' pouch and attempt to retro-extrovert the fundus, which, owing to size of the uterus, was unsuccessful. Finally the body of the organ was with much difficulty dragged out on the right side after dividing the right attachments. With the uterus came the right ovary, enlarged to the size of a fist, evidently malignant. After opening the vesico-uterine pouch, the left attachments were easily reached and divided, and the uterus and right ovary removed. Weight of uterus about seven ounces (the size of the organ in my first successful case). There was considerable hemorrhage from deep-seated points in the posterior wound, which it took some time to find and ligate. Ligatures all left long, no vaginal suture. Iodoform gauze. Duration one and one-half hours.

In this case the extreme care to prevent parenchymatous hemorrhage by previous deep ligatures before each incision was not practised in the same degree as in Fritsch's operation.

3.—LEOPOLD. July 2d. *Epithelioma of Cervix spreading to Anterior Vaginal Wall.*

First circular incision, which in front was necessarily, for fear of wounding the bladder, carried so close to the ulceration as to render it, to my mind, more than doubtful whether the incision was in healthy tissue. A speedy return of the disease at this point seems to me inevitable.

Then pushing up bladder and vaginal wall with finger and scalpel handle as far as possible, opening of Douglas' pouch. Small sponge with long wire attached inserted into Douglas' pouch to prevent prolapse of intestines. With the left index finger as a guard in the peritoneal cavity, step by step the left broad ligament was ligated, an aneurism needle being used and the tissues pierced in each instance; the tissues being cut after each ligature. The same was done on the right side until only a slender attachment in front to the peritoneum remained, which was divided on the finger and the uterus removed. The vaginal walls were not stitched to the peritoneum, for which reason there was rather profuse bleeding from numerous deep-seated points in the pelvic cellular tissue, which required laborious and tedious search and ligation. Finally the stumps of the ligaments were stitched to the vaginal wall. Duration rather over one and one-half hours.

The patient was in the gluteo-dorsal position, as usual, and Simon's specula and retractors were used. An ingenious contrivance of Fritsch, consisting of a large hollow Simon's speculum, with rubber tubing and stopcock attached, was used as an elevator of the anterior vaginal wall and a permanent irrigator, instead of sponges.

Leopold told me that he had removed the cancerous uterus per vaginam thirty-eight times with but two deaths. Although I do not know the exact figures, from the number of specimens I saw at Fritsch's and Schroeder's and the general statements, I should judge that their results, as regards recovery from the operation, are quite as good as those of Leopold, and the number of their operations, if anything, larger. A more careful, safe, and steady operator than Fritsch, in this particular operation, cannot be imagined. I regret that I did not see Martin remove the cancerous uterus, for I am told that he seldom exceeds thirty minutes, and has done it in twelve minutes. But I can hardly conceive how it is possible to absolutely secure all the vessels and stitch together vagina and peritoneum in so short a time.

So far as the ultimate results of the operation, and the future immunity from the disease are concerned, I learned no new facts in addition to the published figures. But I must repeat my advocacy of the operation even though the disease returns in a year or two, provided the *immediate* mortality does not exceed that stated by Leopold.

It is a matter of regret to me that my time did not allow me to see Olshausen in Halle (who very kindly invited me), or Freund in Strassburg, operate. But I was compelled to hasten

from Berne to Geneva, where I spent two very agreeable days with my friend, Dr. A. Cordes (well known through his contributions to the *Annales de Gynécologie*) who had just been appointed physician to the Geneva Maternity; and where I met, among others, Prof. Vulliet, of the Geneva Faculty of Medicine, a gentleman exceedingly well acquainted with American and German gynecological literature; and thence to Paris. Here my friends, Profs. Budin and Tarnier, and Prof. Pinard, received me most cordially.

It was most delightful and touching to witness the veneration with which Tarnier's pupils, who had remained on terms of intimacy with him, notably Budin, Ribemont, Pinard, Bar, Champetière, treated their master, their "*cher maître*," as they addressed him. And the genial *bonhomie* of Tarnier, and the *entente cordiale* which existed so evidently between master and pupils could not but make me wish that such a mutual kindly feeling and interest were more commonly met with. As it happened, on the day before I dined with Tarnier, the national holiday, July 14th, he had been made a commander, and Budin, his favorite pupil, a knight of the Legion of Honor, and the hearty joy of the chief at his pupil's distinction was unmistakable.

After dinner Tarnier showed me his new instruments for crushing and extracting the fetal head, the *basiotribe*, evidences of the efficacy of which, both as crusher and tractor, had been shown me, by Budin, at the Maternity, in the shape of a number of casts from the subject. In construction it is simple, and it is not very expensive.

He also demonstrated to me his latest model of the traction forceps, in which the attachment of the traction-rods seems absolutely perfect, for they can be so fastened along the inside of the blades during introduction as to be entirely out of the way, and when the forceps are locked the traction-rods can at once be loosened and brought into action.

I had no opportunity to see laparotomies in Paris, for the French seem at the present day still to devote their energies chiefly to obstetrics, and, with few exceptions, practise but little operative gynecology, according to the modern school. Some of their rising young men, with Budin, Pezzi, Ribemont, Doleris, and a few others at the head, show a decided inclination to emancipate themselves from the old-fashioned round-speculum and porte-caustique practice of their elders, and to follow in the lead of their colleagues in America, England, and Germany,

after a fashion worthy of the ancient renown of their country as a leader in that branch of medicine.

Paul Bar, in Paris, had just performed a successful old-fashioned Cesarean section, and Doléris had lost a Porro operation.

The chief point of interest for me in Paris was to witness the treatment by galvanism of uterine fibroids employed by Apostoli, whose published results had excited my curiosity. Although this gentleman is looked upon as, and undoubtedly is, an enthusiast in the use of electricity for uterine disorders, what he showed me was abundantly sufficient to convince me of the immense value of the galvanic current in fibroid tumors. By discarding the usual large flat sponge as the external electrode, and substituting for it a thin layer of wet sculptor's clay wrapped in ordinary gauze, in the surface of which the zinc disc attached to the battery cord is gently embedded, he is able to pass a current through the desired part of the body (from vagina or uterus through a fibroid growth of any size to the surface of the abdomen) of an intensity as high even as two hundred milliamperes. The influence of a current of such strength in altering the nutrition of a neoplasm must of course be enormous; and such an effect cannot be expected of a current of the moderate intensity (no higher than twenty milliamperes) which I have found was all my patients could bear with the external sponge electrode. Even with 200 milliamperes, Apostoli's patients experienced no actual pain on the skin of the abdomen (where the negative pole is placed) except when sudden interruptions up or down were made in the current.

The internal electrode was usually a platinum sound passed into the uterus. But if the fibroid was easily accessible from the vagina, he was in the habit of thrusting a steel needle into it through the vaginal wall. The sittings were given two or three times a week, of ten to fifteen minutes' duration, and the treatment might continue over a series of months. He demonstrated to me, and I myself examined fully a dozen women with fibroids of different sizes, sounding each case, and asking them any questions I desired as to their former and present conditions, and the uniform reply was that menorrhagia had decreased, the general health had improved in every way, and from miserable, ailing women they had become comparatively strong and healthy.

A *very* marked diminution in the size of the tumor could not always be claimed; but a diminution of one-quarter to one-third was quite the rule. I had the opportunity in several cases of

comparing the present size with that before treatment, as shown by plaster casts of the abdomen, and could, therefore, verify this statement. The improvement in the hemorrhage and in general health was achieved quite as much by intra-utero-abdominal galvanization, as by electro-puncture. If decided diminution in size was intended, vaginal puncture would prove more efficient.

That Apostoli's enthusiasm would at times lead him too far was shown me by a case of intrauterine polypus, which was plainly felt through the fairly dilated external os, and which, because he said the attachment was broad, he was treating by electro-puncture. Most gynecologists would simply have completed the dilatation of the cervical canal, and have removed the tumor by vulsellum, spoon-saw, and scissors.

But I am confident that in the galvanic current, used at as high an intensity as the patient can bear, we have a most powerful agent for not only controlling the growth, but also the symptoms, chiefly hemorrhage, of fibroid tumors of the uterus of all sizes and locations—an agent which I would strongly recommend to our specialists for thorough trial, before hastily resorting to oöphorectomy and hysterectomy.

I also saw several cases of chronic pelvic exudation which were under treatment by galvanism, and in which Apostoli claimed that the brawny exudate had greatly decreased in size; these were treated both by simple vagino-abdominal galvanization and by electro-puncture.

In corroboration of Apostoli's experience, I will mention that, in one of the few cases in which I have used electro-puncture for fibroids, three sittings of half an hour with a current of twenty-four cells were employed, when the patient left the hospital (March, 1885). A year later, she returned for a pelvic cellulitis, and I found that the large hard fibroid which had nearly filled the pelvic cavity, and extended half-way to the umbilicus on the right side, had almost completely disappeared.

Arrived in London, I found a letter from Mr. J. Knowsley Thornton inviting me to an abdominal section on the following day, and an ovariectomy two days later.

Mr. Thornton, as is well known, is one of the surgeons to the Samaritan Free Hospital, and a rigid adherent to antiseptics in laparotomy, including the spray. His antiseptic is carbolic acid. He operates in the small ward of the hospital, the walls papered and hung with pictures, the floor of wood, thus render-

ing the scrupulous cleansing and disinfection of the operating-room, practised by the Germans who do not use the spray, substantially impossible. The patient remains in the room where the operation took place.

Mr. Thornton is a very careful, minute, and painstaking operator, taking no chances of failure merely for the sake of dash or appearances, or of finishing an operation in a certain number of minutes. I have never seen the abdominal suture so deftly and neatly applied. His results with careful antisepsis are very good, although no better than those obtained by his colleague, Dr. Bantock, in the same institution, without antiseptics.

CASE XIX.—THORNTON. *Abscess of Right Ovary Perforating into Vagina. Laparotomy.*

July 19th, 2:30 P.M.—Rubber cloth with slit in centre, fastened to abdomen with collodion, and hanging over the edge of the table on either side, to carry off fluids. Medium incision. Extensive adhesions of right ovary, filled with pus, and tube; while detaching these with the finger, rupture of ovarian abscess into peritoneal cavity, very fetid pus. Rapid removal of ovary and tube, ligation of pedicle with silk; then repeated and very careful mopping out of peritoneal cavity with a large sponge soaked in corr. subl. sol. 1 : 1,000, whereby the odor was entirely controlled. Then Mr. Thornton poured the abdominal cavity full of boiled water at a temperature of 100° from a large can, pouring it in by the gallon, again and again, until it flowed out perfectly clear and sweet. (This water was not made aseptic, except by boiling.) The residue was squeezed out or mopped up. A straight glass drainage tube was introduced, and the wound carefully closed with silk, a straight needle on each end being used without a needleholder. The vagina was thoroughly irrigated with corr. subl. sol. 1 : 1,000.

The sponges, a number of which had been put into the abdominal cavity, were carefully counted before the wound was closed, there being, if I recollect rightly, as many as seventeen sponges.

CASE XX.—THORNTON. *Simple Ovarian Cyst—Second Ovary also Removed.*

July 21st, 3 P.M. Perfectly simple case, no adhesions; cyst tapped in dorsal decubitus with Sp. Wells' large trocar. Usual silk ligature to pedicle, dropped. Second ovary slightly cystic, also removed. Complete closure of wound. Both these patients recovered.

The case of perforating abscess of the ovary was one of those rather rare instances in which such an abscess perforates into the vagina, and thereby simulates the ordinary true pelvic abscess, in which the pus follows a pelvic cellulitis, and is situated in the pelvic cellular tissue outside of the peritoneal cavity. Probably, when the purulent ovary is firmly adherent to the

bottom of Douglas' pouch, a *free* incision with irrigation and drainage through the vaginal roof would also bring about a gradual closure of the abscess and recovery, as in true extraperitoneal pelvic abscess. Laparotomy is in such cases, of course, always the most certain mode of treatment.

Dr. Bantock differs from his colleagues at the Samaritan in using no antiseptics whatever, boiled water sufficing for his cases. He also is a very careful operator, not hasty or rash, and his results are excellent.

CASE XXI.—BANTOCK. *Chronic Peritonitis from Rupture of Ovarian Cyst; Extensive Adhesions. Removal of Cyst. Drainage.*

July 21st, 9 A.M. Patient greatly debilitated; abdominal cavity full of thin, brown fluid; inflammation of peritoneum and cyst-walls, almost universal adhesions. After emptying the abdominal and cyst cavities (patient on back), as the adhesions were broken down with the fingers and the sac withdrawn, pedicle ligated and dropped. Considerable oozing. The abdominal cavity was thoroughly washed out with tepid, boiled water poured in by the pitcherful, until it escaped perfectly clear. The excess was squeezed out and mopped up, and the oozing from the adhesions was arrested by packing large sponges against the raw surfaces, which were removed when the abdominal wound was closed by silk-wormgut sutures. Straight glass drainage tube. Ordinary dressing.

Bantock used a device which I also saw Thornton employ, namely, a piece of rubber cloth with a small button-hole for the head of the drainage tube, which cloth was doubled over the mouth of the tube, and kept it sealed, besides protecting the dressing.

No cautery was used to the pedicle in this or any other operation I saw in England.

CASE XXII.—MEREDITH. *Large Pediculated Subperitoneal Fibroid. Pregnancy two Months. First, Removal of Fibroid, and then of Uterus and Ovaries.*

July 23d. Carbolic spray, so as to keep the patient and surgeons enveloped in a thick mist. Long incision; tumor, size of adult head, attached by slender pedicle thickness of thumb to right horn of the uterus. Transfixion and ligation of pedicle; removal of tumor. The operation then seemed practically concluded, and I expected to see this small pedicle dropped. But the operator noticed that the uterus was enlarged and elastic to the touch. On inquiry, it was ascertained that patient had missed two periods, hence pregnancy was probable. Imbued probably with the idea of attaching the stump of the pedicle to the abdominal incision, and treating it extraperitoneally, the operator did not wish the uterus to enlarge and drag upon the

pedicle, and thus produce an abortion, and, to obviate this danger, decided to remove the uterus with its contents, which he did after transfixing the cervix and throwing a wire *serre-nœud* around it. The fetus escaped when the uterine cavity was opened. The stump was painted with tr. iodine, probably as an antiseptic, and the peritoneum sewed over the stump, which was then attached to the lower angle of the wound by sutures.

With due deference, since I do not know, but merely guess at the motives of the operator for removing the uterus, I must criticise this latter part of the operation. It appeared to me and to others present that the small pedicle of the fibroid could have been dropped with perfect safety, as in any ordinary case of ovariectomy, and that in all probability, the attachment of the fibroid having been so slight, the pregnancy would not have been interfered with. And even if abortion had ensued, that event would have been free from unusual danger. In short, the removal of the pregnant uterus and ovaries seemed entirely uncalled for.

However, I make this criticism with all proper caution, for the operator *may* have had reasons for his action which were not apparent to the spectators.

On receipt of a note from Mr. Tait that he would do two laparotomies on the next day, I went to Birmingham, and had the good fortune to see him do three abdominal sections in one day.

So much has been written about Mr. Tait's peculiar methods that I shall not repeat what is probably well known to those of the profession interested in laparotomy, but will merely give a very brief sketch of what I saw.

Tait operates both in his private hospital and a small public institution in a suburb of Birmingham. He operates in the sleeping-room of the patient, uses absolutely no antiseptics, either for hands, instruments, sponges, or about the room, which is papered, hung with pictures, and small, filled bookshelves, etc. On being notified that the patient is under ether (by Clover's inhaler, which I have used exclusively for about three years), Tait proceeds to the room, removes his coat, strips up his sleeves, washes his hands and arms, puts on an apron, takes a knife from a pocketcase lying on the windowsill, tries its edge on his thumb, and makes the incision. A lady gives the ether; a male assistant (who does little but aid in tying the pedicle-ligature) stands opposite Tait, and there are two or three female nurses in the room to hand sponges, etc.

Everything is done noiselessly, quickly, and systematically, without any ceremony or fuss. The patient lies stretched at her whole length on a plain table. The instruments used are a knife, a number of hemostatic forceps, several long serrated forceps, perhaps a trocar. The pubes is not shaved nor washed by the operator before making the incision, which is very short, not more than one to one and one-half inches in length. Lifting up the tissues with two forceps, one of which is held by the assistant, Tait rapidly divides layer after layer until the peritoneum is reached, which he seizes and lifts up to the level of the skin, nicks, and at once enlarges the opening by thrusting the two first fingers of his left hand into the incision, which they completely fill. Now his wonderful dexterity and tactile sense come into play, for with these fingers he at once makes the diagnosis (which he appears to pride himself on not attempting to make with accuracy in those cases which call for removal of the uterine appendages, the so-called "Tait's operation," except through the abdominal incision), peels off the organs if they are adherent, and in a trice brings them out through the incision. With a straight Peaslee needle, he transfixes the pedicle, slips the noose of the ligature over the ovary and tube, and ties the "Staffordshire knot" always used by him, which is very simple to understand when seen, but less easy to describe or comprehend from a description. The knot being securely tied and the ends cut short, the ovary and tube are cut off with scissors, and the stump dropped without more ado. The same on the other side. A sponge catches whatever oozing there may be from adhesions, the small incision is closed by two, at most three, silk sutures, a small pad of absorbent cotton is placed over the wound, which is so small as to appear merely like a faint red line, and the operation is concluded.

CASE XXIII.—TAIT. *Double Oöphorectomy for Constant Pelvic Pain and Dysmenorrhea.*

July 24th, 9 A.M. Neither ovaries or tubes enlarged. Duration nine minutes.

CASE XXIV.—TAIT. *Prolapsed and Adherent Ovaries, somewhat Enlarged; Oozing; Drainage tube.*

July 24th. Symptoms chiefly sacralgia, general pelvic pain, dysmenorrhea. Both ovaries prolapsed behind uterus and adherent; some difficulty in detaching adhesions; considerable oozing; straight glass drainage tube; after closing wound, a little bloody serum was sucked out of the tube with a long nozzled glass rubber-bulb suction tube, similar to a milk pump. Duration thirteen minutes.

CASE XXV.—TAIT. *Small Dermoid Cyst of Right Ovary somewhat Adherent; Left Ovary Enlarged; Double Ovariectomy.*

July 24th. Before beginning, Mr. Tait asked Dr. Wylie and myself (who were the only spectators) to make a digital examination with a view to diagnosis. I hastily did so, and gave it as my opinion from the rounded shape and dull elastic feel of the mass I felt on the right side and behind the uterus, that it was a small ovarian cyst and probably adherent. Mr. Tait remarked that the symptoms all pointed to tubal disease, an opinion which Dr. Wylie, who examined after me, concurred in.

On opening the abdomen and inserting his fingers, Tait pronounced it to be small ovarian cyst, and passing in a long slender trocar between his two fingers he punctured the sac, and his diagnosis was completed by seeing the sebaceous matter escape from the canula, showing it to be a dermoid. With extraordinary dexterity, considering the size of the incision (only $1\frac{1}{2}$ "), Tait seized the cyst with long forceps and gradually drew it out, using a second trocar to puncture the sac again, and in a few moments delivered the tumor, which had originally been of the size of an orange, no fluid having entered the abdominal cavity. After ligation and removal, the second ovary was found enlarged and also removed. Duration fifteen minutes.

We also saw Tait do an operation for complete laceration of the perineum, which was certainly ingenious and original. The patient had once before been operated on, but the sphincter had failed to unite. The operation was performed on the patient's bed, she being in the gluteo-dorsal position at the edge, her legs supported by an apparatus, Tait kneeling before her on the floor. With short stout scissors, bent on the edge, he cut through the bridge of the perineum remaining from the first operation, and then thrusting the point of the scissors into the recto-vaginal septum near the median line, with two strokes he cut outwards and slightly upwards to the border of the skin on either side, thus separating the vaginal and rectal walls for a short distance. With a second incision on either side, but pointing outward and slightly downward, he loosened the separated edges of the sphincter ani muscle. This all was but the work of a moment. With a straight Peaslee needle he first united the upper half of the wound, using three sutures of silk worm-gut which he took from his mouth; and then in the same manner he drew together the posterior half of the wound and the sphincter with two sutures. When the sutures were all tied, the perineum certainly appeared restored, although there was not a very smooth or perfect coaptation of the skin. No tissue whatever was removed, whether cicatricial or otherwise, certainly an advantage for a future operation in case of failure to secure union. The shape of the incisions might be likened

to two capital Y's placed horizontally against each other, thus $\times <$. The operation certainly did not last longer than ten minutes, which is also an advantage, if it proves successful.

While at Birmingham, I received the following letter from Dr. Thomas Keith in answer to an inquiry whether he expected to perform a hysterectomy for fibroid during the coming week :

"DEAR DOCTOR :—I am very sorry that there is no prospect of any operation for fibroid. I have not a single one in prospect. I never do any but large tumors for which there seems no other remedy, and then usually only when they are not very old. The large tumors seem to have quite disappeared from here. Look at it as you may, hysterectomy is a very risky operation, and the natural history mortality of fibrous tumors is practically *nil*. I have worked among them for the last thirty years, and that is my experience. . . . Is there no chance of your coming here, even though there is no fibroid to show you? It would give us much pleasure. I am, sincerely yours,

"THOMAS KEITH."

This expression of opinion on the indication for hysterectomy in fibroid tumors by the most successful operator in that particular class of cases should be a warning to us all to refrain from hasty operative interference in such cases.

A short visit to Liverpool at the invitation of Dr. Alexander, to see him do his operation for shortening the round ligaments, which he did very dexterously on both sides in less than half an hour, brought my professional visit abroad to a close. From the difficulty Dr. Alexander had in finding the ligament on the right side, after he had easily isolated it on the left, I can readily see how a less experienced surgeon might miss it in fat subjects, or when the ligament is attenuated or pale.

After several pleasant days spent with my old and valued friend, Dr. J. Braxton Hicks, at his town-house and at his country-place, at Lymington, near Southampton, I sailed for home on August 1st.

I have thus seen twenty-five abdominal sections performed by fifteen of the first laparotomists of Europe. Since my object was mainly to see laparotomies, not to report results, I have taken no special pains to inform myself of the termination in many of the operations I saw.

If I were to attempt to reply to the query, whether one of the objects of my journey was accomplished, and whether I could explain why we have not as yet achieved results in ab-

dominal section which can compare favorably with those of the best foreign operators, I should be at a loss how to answer. A perfectly satisfactory explanation to myself I certainly cannot as yet give. But there seem to me to be two main reasons why European operators excel us, and these are, not in their superior surgical dexterity, but :

1. Because in Europe laparotomies are more concentrated, fewer operators perform proportionately more operations, and therefore each operator acquires a greater dexterity and a more varied experience in handling exceptionally difficult cases, that is, greater confidence.

This greater concentration of cases, of course, gives the operator a larger variety for selection, and obviates the tendency natural to all surgeons to operate whenever there is a fair prospect of success. An operator with few opportunities will thus be likely to take more chances than one who is overburdened with material.

2. The majority of European laparotomists, chiefly those who are clinical professors, have at their disposal operating-rooms, clinics, and wards fitted up with every facility and with every modern contrivance for guarding against infection, and are assisted by a staff of trained aides, whom long experience renders familiar with every detail of the operation and the after-treatment.

The number of these assistants and nurses is generally as small as the operation can possibly be performed with, the operator himself doing most of the handling of instruments and sponging. Absolute cleanliness, with or without antiseptics, insures reasonable safety from infection.

In consequence, a system is observed which renders errors, both of commission and omission, rare, and reduces the admission of noxious and septic influences from without to a minimum.

That the *morale* of the patients is elevated by this thorough system is evident, and this is in itself an important factor to success.

The length of the abdominal incision does not appear to be important, since German surgeons with long incisions, and English operators with short incisions, have equally good results.

Whether climate or the constitutions of the different races exercise any influence on the result, *pro* or *con.*, must still remain undecided.

If European women are more robust than ours, certainly this

can apply only to the German peasantry, whose work in the fields gives them powers of endurance not possessed by the majority of our house-bred women. In the middle and upper classes, the constitutions appear about the same.

Hence I can arrive at no other conclusion than that by a careful study and imitation of, and perchance eventually an improvement on the methods of the most successful foreign operators, we must seek to equal or excel them in course of time. I trust that this brief and incomplete, because discursive, report of some of these methods may aid those of our operators who are not satisfied with their results in improving them.

In conclusion, I desire here to publicly express my thanks to all the gentlemen mentioned in this report, for their courtesy in permitting me to witness their operations, and my warm obligations to those of them and others who extended to me social civilities which helped greatly to render my trip enjoyable and memorable.

S. S. "FULDA," August 9th.

A RARE CASE OF DYSTOCIA, ENDING FATALLY. WITH
REMARKS.

BY

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ON May 18th, I was called to see Mrs. P., white, æt. 25, in labor with her second child, She was a woman of fine constitution and physique. I had delivered her four years before, after a protracted labor, with instruments. She had an unusually roomy pelvis. Labor had been expected to come on about April 30th, and I am sure that there were two attempts at labor about that time. Her abdomen was so large that a twin pregnancy was suspected. The term of pregnancy was passed in unusual comfort, and she was constantly watched during the whole period. I saw her at 3 A.M.; found labor pains normal as to character and frequency. Examination revealed a breech presentation in the first position. Labor progressed slowly but satisfactory, without exhaustion or much suffering to the mother until the child was delivered to the neck about 8:30 A.M. All efforts to turn out the head were futile. Just prior to the de-

livery of the body, the pains became inefficient, and a small dose of ergot was administered, but, so far as I could judge, without effect. The pains now ceased, and realizing that I needed assistance, I summoned my friend and colleague, Prof. Tompkins. Inspection of the child showed it to be deformed by *talipes equinus* of the right foot and a large *spina bifida*. The patient seemed perfectly comfortable, showed no evidence of fatigue, but was not cheerful, and expressed anxiety as to the result of her case. While waiting for Prof. Tompkins, she suddenly complained of a most unbearable pain in the abdomen, about four inches above the pubis. On inquiry into its nature, she described it as being entirely unlike labor pains. She yet manifested no evidence of shock, and I failed to appreciate its significance at the time. We gave her chloroform at 10 A.M., and, on thorough examination, found the labor was retarded by a *hydrocephalic head*. The head was perforated in the occipito-parietal suture, and, after a large discharge of water, with some difficulty the head was delivered, laceration of the perineum, down to the anus, occurring. There was an average discharge of blood and water, the uterus contracted firmly, Prof. T. keeping his hand on the fundus uteri for some time. The perineal laceration was closed by three interrupted sutures, the binder applied, and she was made comfortable in bed. It was nearly an hour after delivery before Prof. Tompkins took his leave; his attention was called to the patient and to the condition of the uterus. *He expressed himself as satisfied with the patient's condition, she evincing not more than an ordinary amount of fatigue; at 1:40 P.M. the patient was comfortable, pulse fair, flow free, but not more so than is commonly the case; but she looked pale, and seemed to be suffering more than usual from shock of labor, but having taken ergot freely since delivery, and whiskey, both by mouth and hypodermically, and feeling convinced that all she required for perfect recuperation was repose, I left her. At 3:10 P.M., I was hastily summoned, and when I reached her bedside twenty minutes later, she was dead.*

The first point to establish is the rarity of hydrocephalus as a cause of dystocia, and especially the increased complication when it is the *after-coming head* in breech presentations. That the complication in these cases is more difficult of removal is so apparent upon reflection that it does not need discussion; it is sufficient to call attention to the fact *that the complication is more dangerous* than in vertex presentations, because the labor, as a rule, progresses normally until the whole body is delivered, and, as a consequence, the existence of the cause of dystocia is not appreciated so soon, and there is, of necessity, delay in applying the needed means of relief, and the body of the child being in the way, manual or instrumental delivery is.

made more difficult. "The frequency of hydrocephalus is estimated by Lachapelle as 1 in 2,900¹ deliveries; in Guy's Hospital Charity, however, perforation or puncture, on account of hydrocephalus, was called for only once in 29,591 deliveries. In general, interference is called for in about three-fourths of the cases. Pelvic presentations are much commoner than in normal cases (about one in five), *especially when the distention of the head is great*, for the adaptation of the child to the uterus takes place best with the head uppermost" (Italics ours—Galabin, "Manual of Midwifery," p. 425). These facts are indorsed by Cazeaux and Tarnier. Dr. Thomas Keith reports sixteen cases of rupture of the uterus in seventy cases. The mortality to the mothers is put down as *one in four*. In searching the AMERICAN JOURNAL OF OBSTETRICS since 1879, only two cases of this complication are recorded—one reported by Dr. Mundé, a vertex presentation, which died on the seventh day after delivery of septic endometritis (p. 662, Vol. XIV.); the other, recorded by Dr. Joseph N. Study, was a case of spontaneous delivery of a woman pregnant with twins (Vol. XVIII., p. 595). The long deferred manifestation of shock in so serious a lesion is a subject for comment which I cannot explain. I record this case because of its rarity, and because our failures often are more useful than our successes.

206 E. GRACE STREET.

HERMAPHRODISM.

BY

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HERMAPHRODITES, so called, have in all times claimed for themselves a good deal of attention; and not a little from the medical profession.

In the very large majority of cases their existence is no more real than that of their mythological exponent, the hermaphrodite of the Romans and the Greeks.

In a volume known as "Le Musée Secret," which deals with certain statues, paintings, and bas-reliefs of a very questionable

¹ Fifteen cases in 43,555 labors, Cazeaux and Tarnier, p. 854.

morality, unearthed upon the sites of ancient Herculaneum and Pompeii, are several representations of this mythical and complex personage. Two of these are statuettes, and one a relief, if I remember right, for I have not the book before me. In two of them the divinity is represented as standing, and in the third as reclining asleep upon the ground.

In the statues, the figure is that of a female, with voluptuously sinuous form, and, but for the insignificant and puerile male genitals, would readily pass for a well-developed young woman. The breasts are distinctly those of a well-favored girl, the face is feminine and devoid of hairy appendages, and the shape of the limbs, the breadth of the hips, and the shape of the abdomen, as well as the position—standing upon one foot, with the other merely touching the ground with the ball of the toes, the knee of this latter limb being slightly flexed, and the entire limb slightly rotated inward and adducted—all are distinctly feminine. The position is one not infrequently met with in female statues, and, with the single exception of that of a young Faun, I do not remember ever having seen a male subject made to assume this attitude.

In the relief of which I have spoken, the subject is lying asleep in a wood, covered with a garment resembling the stola, which is being lifted by an erotic satyr who has just discovered her. The breasts are exposed to view, as also the pudenda; all these parts correspond with those of the statues already described.

The stola which covered the sleeping hermaphrodite was distinctly a female garment. It was worn also by voluptuaries, pathies, and cithera players, and by the priests of Isis, whence the stole of the clergy of to-day traces its descent.

The wearing of this garment by the slumbering hermaphrodite, the subject being represented in all these three images of the divinity as being distinctly feminine, save in one respect, all would seem to indicate that the ancients regarded this personage as belonging rather to the female than to the male sex. There were, no doubt, then as now, beings who differed from the type of either sex, uniting in their person the special organs of both, but in a more or less imperfect manner.

We cannot wonder, in the age to which reference is being made—one of luxury, and hence infallibly one of degeneracy—that the pruriency of the times should have been catered to,

and that we should find the satyr, the phallus, and finally hermaphrodite, in many of their works of art. The satyr and the phallus were exaggerations founded upon fact, and we can assume that the conception of a complete and sufficient bisexed personage was also an exaggeration, founded upon the actual existence of a class of beings imperfectly and insufficiently so. The idea of hermaphroditism, or at least of persons (principally female as to sex) being able to fulfil in a more or less perfect manner the functions of both a male and female, is, indeed, of very ancient date. In the old Greek authors we are told that the muse Sappho and her devotees were given to the vice known as clitoriasmus, many of them being supposed possessed, as she also was, of a very long and strongly-developed clitoris. The verb *κλειτορίαζω* expresses this act. Some have given its component, *ρίζω*, the meaning of "to touch," but its truer meaning is "to plant firmly" or "to cause to take root."

In later days, and even in our own time, women have lived together as man and wife, and perhaps, in some cases, what goes before may be a solution of the problem. In France, and more particularly in Paris, where investigation upon such a subject is far more easily pursued than in America, women having an elongated clitoris have frequently been known to become lovers of persons of their own sex. Instances are not lacking, however, of hermaphrodites (sic!) becoming the lovers of women,¹ or, what is rarer, taking up the rôle of women with some male lover.

Some years ago, there lived in the old Latin quarter in Paris one who was a perfect hermaphrodite, in so far, at least, as went the power of performing the sexual act, for he had lived with men as mistress, and with woman as lover. Being asked which he preferred, to be a man or to be a woman, he answered: "To be a man, for it gives greater social independence." This reply, I believe, throws light upon many similar cases.

Indeed, in our own land, some two years since, the papers were telling the story of a young married woman who had deserted her husband and child to become the "husband" of a young lady. They had gone before a clergyman who, suspecting nothing, married them, making them "man" and "wife," as far as lay in his power. They went at once to housekeeping, and seemed quite well pleased with each other, when the real husband came along and electrified the community by announc-

¹ See "A Case of Presumptive True Lateral Hermaphroditism," by Paul F. Mundé. *AMER. JOUR. OF OBST.*, Vol. viii., 1876, p. 615.

ing that this "husband" was his own wife and the mother of his child. It must, indeed, be a peculiar moral condition which renders such ill-assorted unions possible. I presume that in some cases the fear of suffering in child-birth, or, in the case of what we call *strong-minded* women, the craving for that social freedom which women may not enjoy, actuates women at times to masquerade as men. Perhaps, in some cases, the presence of an elongated and voluminous clitoris which renders sexual congress painful or impossible, while Sapphism is practicable and, in a degree, pleasurable, may decide a woman to take the rôle of a man in social life. While this last may sometimes be the case, it could not have been so in the case to which I have just referred, for the woman had lived with her husband at least long enough to bear him a child and to nurse and wean it, for the child was over two years old when she deserted him.

This moral and psychological curiosity is not of recent date only, for in the "*Encheiridium Anatomicum et Pathologicum*," published in 1658 by Joh. Riolanus, of the Academy of Paris, we find the following, p. 166: "*Verum nunquam visa est femina in marem conversa, nisi abutatur sua clitoride prolongata. . . . quæ penis formam et duritiem æmulatur, sed penis compositionem nullo modo præ se fert, ac proinde mulieres ex confrectu mutuo et incubatu, magis delectantur quam ex titillatione ex introductione istarum partium inutili.*" And again, p. 179: "*Clitoris prolongatur supra modum, mentiturque penem virilem; κέρκισις, caudatio dicitur, ita ut mulieres ista parte productiore et crassiore abutantur inter se. Tales sunt quæ dicuntur hermaphroditæ vel fricatrices.*"

In all the old books upon which I have been able to lay hands, the conception of hermaphrodites seems to have been much the same, *i. e.*, a person of female sex possessed of a clitoris sufficiently developed for a sort of spurious coïtus. This agrees entirely with the hermaphrodite of the statues and reliefs mentioned at the beginning of this article. There would seem to have existed a certain number of women who were given to Sapphism.

In those days, investigation was not carried on very far, and a person with all the appearances of a woman, yet who possessed the exaggerated organ referred to, was to all intents and purposes an hermaphrodite, and was known by that name. The other organs were not specially noticed.

The desire for investigation grew, however, and matters which had been ignored or passed over as unimportant acquired more importance in the light of scientific research. The presence or absence of an uterus, of a vaginal cul-de-sac, came to be inquired into. The existence of epispadias and hypospadias was known, and those conditions of deformity described centuries ago, and the error of mistaking certain cases of hypospadias for hermaphroditism pointed out. It is only comparatively recently, however, that the subject has been submitted to careful analysis, and the study of comparative anatomy and physiology having gained its proper importance, we may now find in the lower orders that which does not exist, or exists only imperfectly in mankind.

Thus, for true and unequivocal hermaphroditism, we must go to the vegetable kingdom or to certain low forms of the animal, as we shall see later.

After reading whatever I was able to find upon the subject, and having examined a number of cases of alleged hermaphroditism, this conclusion is inevitable. Of course, there are persons who readily pass for hermaphrodites among ignorant or careless observers.

For instance, let us take a man with a somewhat exaggerated hypospadias. The penis is small and impervious, readily passing for a clitoris, the urethral meatus under it, and at the bottom of a longitudinal slit in the mesial line, formed by the separated halves of the scrotum, which, in turn, is but an empty fold, upon either side, the testes being up in the groin, or even inside the abdominal cavity.

Now, such a case may readily pass in the world for an hermaphrodite, and male children deformed in this way have been considered as girls by their parents and kinfolk, and have lived as girls until puberty, when it often happened that the sex announced itself in too strong a manner to be denied. Or such a person might marry and, as a husband, rear a family of his own, or of his friends' begetting.

Some years ago, I heard the following story, which, of course, could not be vouched for: A couple were united in marriage in one of our Western States, who in due time had children, and who lived happily together. The person who passed for the husband of the woman who bore these children was not as other men. In fact he was said to menstruate once a month, and to be

what is called hermaphrodite. The menstrual flow was doubtless the subject of observation with the gentleman who reported the case. In fact, we might accept as true the presence of vagina and uterus; nothing was said about the clitoris or penis, but, even accepting the presence of a long clitoris, we have drawn the picture of a woman, and not of an hermaphrodite. Of course the impregnation of the wife was quite possible, but we must look for the father of the children—*outside*. This is another variety of spurious hermaphrodites, in fact, merely women disguised. I think it very probable that a large and long clitoris existed.

Sometimes the sex of a child is falsified, in the face of much evidence as to what is really the case.

In February, 1883, I saw in the wards of Hôpital de la Charité, in Paris, where I was studying in the service of M. Paul Berger, who was replacing M. Gosselin, a case which well illustrates what has just been said.

A young person came to the hospital with some injury and, seeming to be a man, was taken to the male wards. The orderly, in changing this person's clothes, noticed well-developed breasts, and notified the religieuse, who got a history from the girl, for she was such. All her life she had been considered to be a male child, and had always worked in the field as a man when she became old enough, and at hard work, too. The name, Jules Gobet, was that of a man. At this time the patient was over sixteen years old, and had, while in her usual dress, the appearance of a boy. The voice, however, was high in tone and pitch, and a careful examination revealed at once the mental characteristics of a young woman, while the generative organs, although the seat of a somewhat striking deformity, were plainly those of a female. This patient was the subject of epispadias with vesical exstrophy, and as the midwife had at her birth announced her to be a boy, she had always passed as such and was so reared by the parents, who were very poor and ignorant peasants. Even when the phenomenon of menstruation made its appearance, and the sensations experienced by girls at puberty were experienced by her, feminine modesty, or the dread of exposure or being talked about in the village, prevented her from proclaiming the true state of things, and she thus went on playing the part of a man until she came to the hospital.

I have cited this case to show how, sometimes, a person will

live entirely outside his or her sex. Cases like the above might be multiplied, but one will serve for illustration.

But to return to the main question, we must indeed look for hermaphrodites, at least for true ones, to other and lower grades than that of our own human family. The most perfect type of hermaphrodite must, of course, be what is termed "*sufficient*," that is, capable of self-impregnation, being furnished, of course, with both male and female organs. This would depend upon the situation of these parts, and an individual might be completely bisexed, and yet a reciprocal coupling with a second individual would be necessary, if the parts were so situated as to render "*sufficiency*" impossible. Thus, we may have in plants of certain kinds both male and female organs existing in the same individual.

In some cases where they exist in the same flower we have an example of a *sufficient* hermaphrodite, but when, while existing in the same individual plant, they yet are contained in two different and separate flowers or sets of flowers, it is readily seen that *reciprocal* coupling must take place in order to insure the propagation of the species. We also find examples of this in some entozoa, annelide, and mollusca. For example, in the *Tænia*, each separate joint, when mature, is furnished with both male and female generative organs, but position prevents the hermaphrodite from being sufficient, a *reciprocal* coupling takes place with another mature joint. I think the second below or above is the favored one, and thus we have an example of insufficient hermaphroditism in each joint of the creature, for, in so far as goes the function of reproduction, every joint is a separate animal, or rather pair of individuals.

Littre and Robin describe the following ways in which the sexual congress may occur in the normal hermaphroditism:

1st, by the mouths of each sexual system opening into a common genital cavity.

2d, by the oviduct and deferent vessel blending into a common tube.

3d, by one canal penetrating into the lumen of the other.

But the oviduct may be divided into two branches, one of which reaches the female organs, while the other reaches the testicle and external male organs, or else passes wholly into the testicle.

Some observers contend that this state of things exists in cer-

tain lowly-organized fishes, but proof is wanting. *Vertebrate animals*, says Littré, *furnish no example of normal hermaphrodisism.* Among vertebrates, including the human species, abnormal or imperfect hermaphrodisism is occasionally met with, and its exponents are always sterile. Quite a scientific analysis of the different varieties of this abnormal hermaphrodisism has been made by M. Isidore Geoffroy Saint-Hilaire, which it may be interesting to briefly run over. Thus there is, according to this author: 1st, *hermaphrodisism with excess*, in which the sexual apparatus retains essentially its unity, but in some of its parts presents the characteristics of a male system; in certain others, those of a female. This is to say, sometimes a male set of organs with certain supernumerary female parts, and sometimes the converse of this. These two conditions are termed by him "*complex male*" and "*complex female hermaphrodisism.*" Or, both male and female genital systems may be present, both of which or only one of which may be incomplete, and this condition he terms "*imperfect bisexual hermaphrodisism.*" Thus, men may, together with the presence of a vagina, more or less rudimentary, have the deferent ducts of the testes open upon the walls of this canal, the testes themselves being within the lateral halves of a mesially divided scrotum, up in the groins, or perhaps the subject of some unusual ectopia. In such cases, we find a penis, the site of hypospadias. Some nine years ago, while provisionally upon the surgical division of the New York Hospital, a case was brought to the hospital which presented a good example of this "*imperfect bisexual hermaphrodisism.*" The patient was suffering from chloral poisoning, and when recovering seemed much put out because his sexual peculiarities had been found out. He was a South-American, about 22 years old, and when dressed, was a man, to all appearances, although rather small and effeminate-looking. He wore a beard and mustache, but had a weak and girlish voice. The figure above the waist was masculine and fairly muscular, but the skin of the whole body was very soft and white, more like a woman's than a man's. Below the waist, the figure became that of a woman—broad hips, thighs and legs rounded and plump. A well-marked mons Veneris and vulva were present. There were distinctly labia majora, with the labia minora less well marked. Above, there was a very large clitoris, closely resembling a male penis, having evidently corpora cavernosa, with the extremity terminating in

a glans. This organ was fully two and one-half inches long, and as large, when erect, as the little finger. It was impervious and just under it was an opening, which proved to be the orifice of the urethra. Below this again was the mouth of a vaginal canal, admitting the tip of the index finger readily, and leading back about two and one-half inches, where it terminated in a cul-de-sac.

I could not say whether any body like an uterus was beyond this. In one groin was a body, painful on pressure, which I took for a testis or ovary. There was nothing in the other.

This person told me that he had frequently had intercourse with men, but that the penis or clitoris above-described, becoming erect at such times, proved a serious obstacle to the performance of the act, and that intercourse with women, which was frequently performed, alone gave pleasure. In describing this case, I have used the male gender merely because, politically, the subject was a man. Both male and female organs were present, but neither system was perfect, and, following M. Saint-Hilaire's division of the subject, he furnished an example of that author's "imperfect bisexual hermaphrodisism."

Then, there is also what this observer termed "*hermaphrodisism without excess*," in which the ensemble of the generative organs is essentially either masculine or feminine, only a very small portion of the sexual apparatus belonging to the opposite sex. These conditions we know respectively as male and female hermaphrodisism. Sometimes, however, it happens that there is such a curious association of the characteristics of the two sexes that the sexual apparatus can scarcely be said in any of the parts to be either male or female. In such cases, where the sexes are so curiously jumbled and mixed up, the name "neutral hermaphrodisism" obtains, and is, without doubt, the most natural to give such a condition. This last form is very much rarer than the other two mentioned above.

Rare and curious cases are occasionally met with, where some organs are feminine, others of the opposite sex, neither seeming to predominate to any extent. Indeed, the organs of one sex may be superposed over those of the other, or even those of *each side* may belong to one sex alone. These cases of "superposed" and of "lateral" hermaphrodisism are surely very rare.

But yet more curious are the cases of "semi-lateral hermaphrodisism."

aphrodisism," where the sexual organs upon one side belong to one sex, and where, upon the opposite side, are found a mixture of male and female parts.

And, finally, there may be "*crossed hermaphrodisism*," where we are led, by the very name, to expect a curious state of affairs. Here all the deep organs of the right side, and the superficial ones of the left, for example, are masculine, while the deep organs on the left side, and the superficial ones on the right, are feminine, and *vice versa*. This last condition is very complex and curious, for such parts as are median in position, as, for instance, the uterus, the vagina, the penis, and the clitoris, must at that rate present a most remarkable appearance of confusion. Nevertheless, we must respect the authority whose work we have quoted from, since he was a most careful observer and close student. His account is carefully gotten up, his analysis philosophical, but his ideas are not shared by all of those who have dealt with this subject.

Among the older writers, we find the great French anatomist Duverney, in his "*Cœuvres Anatomiques*" (Paris, 1761, p. 369), entirely doubting the existence of hermaphrodites, says: "*Je n'ai jamais vu d'hermaphrodites véritables, c'est à dire, des personnes qui aient réellement toutes les parties de l'un et de l'autre sexe; pour ceux qu'on croit hermaphrodites et qui ne le sont pas, il y en a de plusieurs sortes.*" He goes on to describe one variety of pseudo-hermaphrodites as follows: (I translate.) "A person having all the parts of a well-formed man, who urinates through the penis in the manner common to men, and is competent to beget children.

"There exists, however, between the root of the penis and the scrotum a fissure sometimes quite deep. In certain cases it forms a cul-de-sac, and never does any liquid escape from it; and at times it is formed by the insertion of the urethra, which does not follow the corpora cavernosa."

M. Duverney mentions having seen an instance of this malformation in a specimen at the Hôtel-Dieu Hôpital, in Paris, where he claims also to have seen a dead fetus which was *without any genital organs at all*, and which he calls the representative of one of the varieties of so-called hermaphrodites. I mention this last case as a curiosity. Perhaps the deformity was the cause of death in utero, for even before birth urination takes place, as we know, into the cavity of the allantois. It is

difficult to believe that urinary organs could have any functional existence in the absence of all sexual parts, for they are so closely related in development to the genital.

Such cases must be very rare, if indeed they ever exist. I do not recall another such case quoted with authority, and at all events I fail to see how it can be considered a species of hermaphrodite in the absence of all sex.

But to go back to the cases M. Duverney describes just before. If the slit below the root of the virile member gave vent to the urine, it is very natural to suppose that they were only hypospadiacs of male sex, for we know that in these cases the urethra may stop short of the extremity of the glans at almost any point. But here the organ is described as normally constituted, and micturition to be properly and normally performed. Hence, all that would make them different from other men is the fissure behind the root of the penis. At all events, the subjects would appear to have been males, and this slight variation could have no bearing upon hermaphrodisism. By straining the point, and imagining this slit or pocket as a rudimentary vagina, they *might* be classed as cases of M. Saint-Hilaire's "Hermaphrodigme (mâle) avec excès."

M. Duverney mentions another class of *supposed hermaphrodites* in which, says he, "none of the male genitals are found; a slit of greater or less depth exists, through which urination is performed. The testes are in the belly, the penis insignificant and scarcely visible, being partly concealed under the symphysis pubis." These he considers as males, and, forsooth, because they have, so he says, no menstrual flow, only urine being voided through this slit, and also presumably because there are testes in the abdominal cavity, he adds that, up to puberty they are generally considered as women, but, that age passed, that they often assert themselves to be men.

Now from this description I should rather consider them as women, if as of either sex purely. The small and impervious organ concealed under the symphysis and "scarcely visible" would surely seem more like a clitoris. And then, can he absolutely diagnose the presence of testes in the belly? Mark, he does not say in the groin!" The clitoris (assuming it as such), the rudimentary vagina (which the cleft or pouch "of greater or less depth" would seem to me to be, rather than some mere male abnormality, especially as the urine is voided by this *cleft*,

and the urethra empties into it as into the vulva, which would thus be its analogue), all these are surely female parts. The testes, if really present in the abdominal cavity, would change the female sex into mixed hermaphroditism, for then the unity of type could not be considered as sufficiently pronounced to class this subject under the "hermaphroditism with excess" of M. Saint-Hilaire. Nothing is said as to the presence or absence of an uterus, so we cannot be too sure in diagnosis, but I have judged from given data. This author mentions still another variety of pseudo-hermaphroditism, namely, those girls who, having a long clitoris, are by this enabled to exercise a spurious coïtus with other girls. They were called in France "disguised men" (*hommes déguisés*). Almost at the beginning of this paper, I referred to such. Curiously enough, this condition of hypertrophia is at times observed in female apes, as well as in women. Some Darwinian enthusiast might build upon this fact an evolutionary polemic. As to the actual dimensions which the clitoris may attain, it is sometimes so great as to be easily mistaken for the penis, and in cases where the other generative organs are somewhat mixed, the size of this part may seem to be the crucial test as to the predominating sex, at least in the popular mind, and practically a person must politically be either a male or a female. I may now mention what I have omitted to speak of in its proper place, viz.: during the first few months of intra-uterine life, the clitoris and penis are of about the same length, which renders determination of sex very difficult at that age. During the early years of life, the clitoris remains large, but after that its growth is usually arrested.

There are, however, exceptions: for example, in Cruveilhier's "*Anatomie Descriptive*," a case is mentioned of a thin and slender woman, in whom the free portion of this organ was five and one-half centimetres in length.

Cazeaux, in his "*Traité des Accouchements*," mentions that cases have been cited where the clitoris was eleven centimetres and even thirteen centimetres long, and then adds: "*C'est même à ces anomalies qu'il faut rattacher la plupart des prétendus hermaphrodites*." Sometimes the clitoris is the seat of elephantiasis, and then it attains extraordinary dimensions. A case of this kind is represented by a dried preparation in the College of Physicians and Surgeons in New York City. The organ resembles in shape the bill of a duck, being largest at its free

extremity, where it terminates in a rounded edge. Its dimensions cannot be far from five inches long by one inch broad. It was obtained from the body of a negress, and is of a deep black color.

In the *Annales de Gynécologie*, a case of elephantiasis of the clitoris is mentioned as having been operated upon by M. Verrier, of Paris, France.

“The trouble was of three years’ standing, and at first the organ had presented some degree of erection upon excitation with voluptuous sensations. It was traversed by two or three sulci of a rosy hue, and blocked up the entire vulvar orifice, into which the finger could not be introduced without previous separation of the labia. The dorsal aspect presents an elevation. The excised tumor, with the blood it contains, weighs ten grammes, and is six centimetres long, three centimetres broad, and nine centimetres in circumference. A pedicle united the growth to the clitoris, with which it was continuous.”

I have mentioned these cases as a curiosity more than anything else, for they are rare, and elephantiasis of the clitoris would not often, I think, resemble the male organ enough to lead to a diagnosis of hermaphroditism. In the two cases cited, a more or less distinct pedicle existed, uniting the growth to the clitoris proper.

Since at birth the clitoris may be as large, or even larger than a penis of the same age, projecting beyond the vulva and strongly simulating the male organ, it is not wonderful that ignorant nurses and midwives have, upon cursory examination, pronounced such girls to be boys. Had they looked for the meatus urinarius the error might have been avoided. The opposite mistake sometimes happens also, and when a male child has a very small penis he is sometimes pronounced to be a girl by the ignorant or careless attendant. And this mistake is very liable to happen if hypospadias exists, especially if the testes are small, or not yet descended into the scrotum. When the error has been committed at the child’s birth, it is surprising how, for many years after puberty, he (or she) has sometimes continued to enact the rôle of one belonging to the other sex.

In the *New York Times* of January 26th, 1884, I saw an account of a person living in a small town near Martinsburg, W. Va., who had, up to the age of nearly 35, passed for a woman but who, desiring to marry a young woman with whom she had been associated in business, and, moreover, convinced as to her

masculinity, sought the advice of the best physicians in that section, who were readily able to proclaim this ci-devant woman to be in truth a man. She had always shown a masculine degree of energy, in ably transacting a business of some importance, but having always worn female attire, her sudden appearance in men's clothing caused much talk, so that the newspapers soon pounced upon the case, and, as often happens when there is a professional element in the case, garbled it.

Through the courtesy of Dr. W. S. Love, of Winchester, Va., I am able to give a more scientific account of the case. I quote the doctor's words :

"The general physical conformation of the body is rather masculine than feminine; breasts rather large, but with non-erectile nipples. There is no hair on the face; the voice is rather feminine and high-pitched. The contour of the hips and lower limbs is masculine. As to the genital organs, the penis is very small and feebly developed, not being over one and one-half inches in length. It is, however, well-formed, but with urethra wanting.

"The testicles are of fair size, and well developed in every particular; only deviation from the normal condition of the parts being that each testis is contained in a separate scrotal envelope, a deep sulcus presenting between these two sacs. Behind, there is the meatus urinarius leading into the urethra, which enters the bladder. Although always wearing female attire, he has evinced masculine proclivities, and has had the entire management of a country mercantile business, a large farm, etc. From his having been educated as a girl, many feminine traits of character exist. He has had sexual feeling and desires since the age of puberty—*presumably* toward woman, although his conduct, as far as known, has always been quite proper toward them. Certainly, in all these years, his real sex was not betrayed by any act on his part."

After an examination by Drs. Love and McGuire, of Winchester, Va., who assured the subject of their examination of his masculinity, he married a young woman with whom he had for some time been associated in business, after having first donned male attire and proclaimed to the community that his sex was really masculine. This case is curious and interesting, and I have stated what I was able to find out about it.

In these cases of genital deformity—for all such are, in truth, deformed—the sexual desire is not always present, in fact, it is quite often wanting, and this is more apt to be the case in those showing an arrest of development. The presence of sexual impulse would seem to depend upon the presence or relative degree of development of testes or ovaries. In cases which could

admit of both active and passive coïtus, if any sexual impulse exists, it is, objectively, either male or female. As far as I know, the individual does not have desires impelling at one time toward a female, at another toward a male.

The desire of *male* coïtus would seem to be far more frequent among such apparently doubly-sexed persons than the reverse. Sexual feeling is not uncommonly absent, however, and that most notably in the case of arrested development of the male organs, especially when there is hypospadias in a diminutive penis, with small and undeveloped testes.

Dr. R. M. Cramer, of New York City, a former colleague of mine upon the clinical staff of the New York Polyclinic Medical School, had a case of this in his practice, a man past forty years old, who had a penis of diminutive size, with hypospadias, who said that he had never had but the very faintest impulse of a sexual nature.

So-called hermaphrodites, and especially those who have a strongly developed clitoris, even should there be great deformity in the rest of the sexual apparatus, with misplaced and under-developed testes or ovaries, often have sexual desires, and often perform the act of coïtion. I have cited one case, that of the South American, who had a vaginal canal, or rather cul-de-sac, quite fitted as a woman for coïtus, but who did not, by reason of the clitoris-penis (which at those times became erect), enjoy it at all, although the act was perfectly feasible, barring discomfort. Though, for the foregoing reason, the rôle of a female in the sexual act was not enjoyable, he was able as a man to gratify, in connection with women, the strong sexual desires which he experienced, and the act of male coïtus was frequently performed by him, and with about the usual degree of pleasurable feeling, if we can trust what he very reluctantly and reticently confessed to me. But now, to bring this somewhat disconnected article to its close, some generalizations can be drawn from what we know about this class of cases.

True hermaphrodites, it would appear, do not exist, but examples of so-called, or pseudo-hermaphroditism, are not infrequent, and present many varieties, although their very nature often prevents their being known and described.

Generally speaking, there are, first, so-called hermaphrodites who have a preponderance of male organs over female, adher-

ing more or less closely to the male type, but with certain female organs superadded.

There are also, secondly, so-called hermaphrodites, who, although adhering more or less closely to the female type, yet have certain male parts in addition, or female parts so differentiated as to be virtually masculine.

Of these two classes, into which, by a little generalization, all these cases may be divided, the second is probably far more extensive than the first. We are assuming that which would seem to be true, viz.: that, while in one individual both sexes are represented by organs peculiar to each, there is always some predominance of one sex over the other, and this predominance may be very considerable. Again, among the individuals differentiated, perhaps widely, from the proper and true type of their sex, yet who are competent for coitus, and possessed of sexual impulses, males are far oftener thus constituted than females. Going still further, among individuals who present a greater degree of deviation or differentiation from the true type of either sex, females are oftener thus constituted than are males; and if we take a psychological view of the mental condition and character of such individuals, womanly traits of temper, and the mental peculiarities so strongly characterizing women as distinguished from the sterner sex, are always present in such, and can be elicited readily, and noted by the careful observer. This I have frequently noticed, in such cases, for instance, as I have given.

Ancient art, both painting and sculpture, may not be scientifically correct as a teacher. We have seen, in the first part of this article, the bearing which the art treasures, unearthed in the course of excavations upon the site of Herculaneum, have upon the subject which has attracted our attention, and although this testimony is not, by any means, beyond dispute, still it has a certain value, and may be assumed to be based upon professional observation, for in that age, as in the most brilliant epochs of medieval art and the early modern, art and anatomy were closely allied.

And, in closing, let me say that no claim to originality is laid by me before those who may do me the honor of reading this paper, but that I have endeavored to be the author of an article that may, I hope, entertain those whom it cannot instruct.

CORRESPONDENCE.

“IS DISEASE OF THE UTERINE APPENDAGES AS FREQUENT
AS IT HAS BEEN REPRESENTED?”

TO THE EDITOR OF THE AMERICAN JOURNAL OF OBSTETRICS.

SIR:—I have now had an opportunity of reading in extenso the very extraordinary paper to which Dr. Henry C. Coe has given the above equally extraordinary title. It reminds me very much of the characteristic statement that “the thing was as big as a lump of chalk,” and Dr. Coe asserts, to the contrary, that “the thing is not as big as a lump of chalk.” I do not know who has made any representation as to the frequency of disease of the uterine appendages, neither do I know in what population any statistics on the subject can be obtained. The varying frequency of operations for disease of the uterine appendages must, of course, be in the practice of different men entirely relative. In my own practice, these operations are extremely frequent because I tap the clientèle of the whole world; they come, and have come, to me from almost every country under the sun. I can easily imagine, therefore, that, compared with the practice of some men who have not given so much attention to this particular department of surgery, they are enormously frequent in my practice. But even I would not venture for a moment to make any kind of statement as to what their absolute as compared with their relative frequency really is. Indeed, I have not the faintest notion. But, taking it even from the purely pathological standpoint, which is evidently that occupied by Dr. Coe, it is proved beyond doubt that their frequency is great; and not only is their frequency great, but their mortality is terrible.

Let us take the only two investigations which have up to the present time been made from anything but a surgical standpoint. Dr. Kingston Fowler in three years found fifteen cases of pyosalpinx (leaving out of the question altogether the minor troubles which do not and cannot, save by the merest accident, appear on the post-mortem table) in the Middlesex Hospital, and of these eight had been fatal from peritonitis due to rupture. Still more recently, and still more forcibly, comes the argument propounded by Dr. Grigg, who, out of five deaths, which occurred within a certain period in the practice of the Queen Charlotte Lying-in

Hospital—and these five were all the deaths that occurred in that period—found that four were due to chronic lesion of the uterine appendages. But for the careful examination made at Dr. Grigg's special request by Dr. Allchin, every one of these four cases would have been set down as ordinary puerperal fever; and how can we tell, unless more frequent post-mortem investigations are made in puerperal cases, that these murderous diseases are not of infinitely more common occurrence than we imagine? No sooner does a woman get a tympanitic abdomen and feverish symptoms after a labor than it is the foolish practice to immediately pronounce it a case of septicemia, whereas my belief is, and the belief is sustained absolutely by Dr. Grigg's experience, that if the abdomen were promptly opened and causes searched for, not only would the word septicemia be banished, but we might be able to save lives which up to the present moment have been sacrificed.

I think I have great reason to complain of the confusion into which Dr. Henry C. Coe has fallen—a confusion which he summarizes in the seventh deduction at the end of his paper, and which he regards, as he says, as legitimate. It is as follows: "The present enthusiasm in this country in favor of Tait's operation will not endure, because it will eventually be discovered that the number of permanent cures is entirely out of proportion to the number of operations." I wish to say that what he has described throughout his paper with, so far as I can see, quite a small number of exceptions, is not "Tait's operation" at all, but is an operation upon which Tait desires now, for at least the twentieth time, to enter a most earnest protest. Let me repeat again what I said at Edinburgh on this subject no longer ago than February last. "Normal ovariectomy" is an operation requiring no skill, little experience, and hardly any judgment, and therefore has been extensively and, I fear, somewhat indiscriminately practised. I have protested again and again against it, yet many whose voices are no louder against it than my own blame me for it, accuse me of doing it, and generally get confused over the whole subject. I desire once more to say that, save when the seat of such organic disease as will explain genuine suffering, the uterine appendages ought not to be removed, and that those who attribute all the pelvic aches and ails of women to the ovaries and tubes, and rush in to remove them, are dangerous people. I don't say they are dishonest, but I say they are misguided. This kind of laparotomy epidemic is no worse, however, and certainly not more harmful, than the tenotomy epidemic which spread all

over the world when Diefenbach first introduced his brilliant and serviceable operations. Every oblique eye was made more oblique on another axis, and many club-feet were hopelessly destroyed—results to be deplored, but common enough in all instances of human progress. New things, especially new drugs, are always done to death, and I greatly fear that indiscretion with such a new drug as chloral has done more harm than all the surgical indiscretions collectively.

I have again to protest against the use of the word "oöphorectomy," as employed by Dr. Coe, because there has grown up, associated with that name, a number of vague ideas which are misleading from their very vagueness, and the impossibility, which is evident everywhere, of separating and clearly defining them. Thus it is clear from Dr. Coe's paper, which is written by a pathologist ambitious of pronouncing from a pathological standpoint a decision upon a surgical question (a feat which is wholly impossible), that he has not yet achieved a complete idea of the fact that "oöphorectomy," as he calls it, includes a lot of perfectly different things. Thus, it may be an operation for a uterine myoma, or for a case of reflex trouble, as designed by Battey, and again an operation for chronic inflammatory pelvic trouble; and all these are absolutely different in every conceivable way. The pathology of the three cases is different, the theory upon which the operation is performed in each case is widely divergent from each of the other two, and, finally, the clinical histories of the patients, and the technique by which their diseases are proposed to be relieved, present irreconcilable differences.

Until, therefore, Dr. Coe has got this idea into his mind, and drops the use of the word "oöphorectomy," it is perfectly impossible for him to really understand the bearings of the discussion.

There is only one other conclusion of Dr. Coe's to which I desire to draw any attention, and that is his fifth deduction which is clearly a speculation by the pathologist upon a matter on which only a practical surgeon can offer any opinion. Dr. Coe says: "Many of the symptoms ascribed to disease of the uterine appendages are really due to *localized peritonitis*, which will *not* be relieved by removal of the appendages." Here Dr. Coe has put the pathological cart before the clinical horse. In these cases, which we deal with by operative proceedings, the localized peritonitis is recurrent, its recurrence being due always to an inflamed condition of the uterine appendages at the time of menstruation, and, as a matter of fact, removal of the appendages cures the patients in an overwhelming majority of cases.

Upon the whole of this question I do not pretend to say that unnecessary and therefore improper operations are not being performed; unfortunately I know that they are, but it is due not to principles of the operation, nor to anything concerning the operation itself, but simply to the inherent tendency to error which prevails in everything that is human. Everybody now seems to be desirous, especially on your side of the Atlantic, of opening the abdomen, and so long as this is the case the production of specimens which do not justify their removal will be inevitable. But when an operation is put in the hands of responsible people, whose reputation and personal existence must be made to depend upon their thoroughly understanding the principles upon which the operation should be performed, and which should not be departed from, this tendency to human error will be diminished. That it ever can be removed entirely is impossible, because unjustifiable and improper operations are just as common upon the operating-table of the general hospital as they are upon that of the gynecological department.

I am, etc.,

LAWSON TAIT.

BIRMINGHAM, July 8th, 1886.

TO THE EDITOR OF THE AMERICAN JOURNAL OF OBSTETRICS.

SIR:—In the June number of your JOURNAL I find an article on "Diseases of the Uterine Appendages," etc., by Dr. Coe, in which an assertion is attributed to me which I have never in any sense whatever made. The quotation is as follows: "There are unquestionable changes within the ovary, invisible, and not at all recognizable clinically, which may, however, occasion severe and protracted symptoms of disease, so that castration may be indicated even where anatomical changes are not demonstrable."

As a matter of fact, I have always held precisely the opposite view, as the author might very readily have ascertained if he had taken the trouble to give my writings a more careful perusal. I have always believed and taught that the ovaries should never be removed unless they are unquestionably diseased, that is, unless an anatomical alteration can be detected without doubt by a physical examination.

ALFRED HEGAR.

FREIBURG I. B., July 9th, 1886.

TO THE EDITOR OF THE AMERICAN JOURNAL OF OBSTETRICS.

SIR:—While acknowledging the justness of Mr. Tait's criticism of certain rather loose expressions in my paper, and deplor-

ing the fact that I did not, before allowing it to appear in print, explain more fully its local bearing, I desire to reiterate that my sole purpose in writing the article was to call attention to the frequency with which laparotomy had been performed in this country for the removal of tubes and ovaries that presented no anatomical evidences of disease. I have no ambition to pose as a polemical writer, still less as the critic of such an acknowledged leader as Mr. Tait. Since I have already repeatedly tried to explain that I agreed entirely with the opinions so lucidly stated by him, and that I used the unfortunate term "Tait's operation" in the incorrect sense in which it is too often employed among us, there seems to be no reason why this one-sided controversy should be continued.

Doubtless there are sentiments in my paper which might have been expressed more happily, but I trust that most readers will recognize the errors as those of youth and inexperience, although Mr. Tait ascribes them, less charitably, to ignorance.

The use of Professor Hegar's name in connection with the sentence quoted in his letter was a pure *lapsus calami*, as will be evident to any one who is familiar with his writings. A reference to the original (Olshausen's "Krankheiten der Ovarien," 1886, page 451) will show that the words should be attributed to Olshausen, and *not* to Hegar. My sincere apology is offered to the latter gentleman. Very truly yours,

H. C. COE.

HOW MUCH PRESSURE CAN BE OBTAINED BY COMPRESSING THE BULB OF A DAVIDSON'S SYRINGE?

TO THE EDITOR OF THE AMERICAN JOURNAL OF OBSTETRICS.

SIR:—Dr. Forest, in his article on "Intussusception in Children," AMERICAN JOURNAL OF OBSTETRICS, vol. 19, page 684, remarks that:

"The Davidson's syringe is a wholly untrustworthy instrument.

"The amount of force evolved depends upon the muscular power of the operator, and cannot be even approximately measured.

"Surgeons would perhaps be surprised did they know how much force can be obtained from the Davidson's syringe.

"I find that the grasping power of my hand, as measured by the dynamometer, is about *ninety* pounds.

"Now, apply this force to the bulb of a Davidson's syringe, and, if the syringe be a good one, we can bring to bear on a column of

water within the colon a pressure of ninety pounds to the square inch, provided, of course, the colon does not rupture."

I confess that I was surprised that such an enormous pressure could be obtained from so common an instrument—one that we all use and one, if the doctor's physics are correct, that is very liable to produce disastrous results.

I would not publicly question his conclusions, only that should some young inexperienced doctor be so unfortunate as to rupture a colon (diseased or not) with a Davidson's syringe, he would probably have these conclusions to meet in the malpractice suit that might follow.

To determine how much pressure could be obtained with a Davidson's syringe, I connected one with a steam gauge, the reliability of which had previously been tested by hydrostatic pressure.

A powerful man, by exerting the whole grasping power of both hands upon the bulb of the syringe, caused the gauge to indicate a pressure of less than *twenty* pounds. I could not produce a pressure of quite fifteen pounds; in other words, that of a column of water 34.7 feet high.

In the face of these tests, the conclusion that a Davidson's syringe will, when compressed by a surgeon's hand, exert a pressure of *ninety* pounds, or that of a column of water 208.26 feet high, is simply absurd.

From these experiments it is evident that the doctor's conclusions are fully as dangerous as the Davidson's syringe in the hands of a careful, judicious surgeon.

While I am willing to admit that the fountain syringe is an accurate and valuable instrument, I am unwilling to concede that the Davidson's syringe is "a wholly untrustworthy instrument," the pressure of which "cannot be even approximately measured."

J. W. KALES, M.D.

FRANKLINVILLE, N. Y., July 9th, 1886.

TRANSACTIONS OF THE GYNECOLOGICAL AND OBSTETRICAL SOCIETY OF BALTIMORE.

Regular Meeting, held May 11th, 1886.

The President, DR. GEO. W. MILTENBERGER, in the Chair.

DR. WM. E. MOSELEY, Secretary.

DR. ROBT. T. WILSON read a paper entitled:

HYSTERECTOMY FOR REMOVAL OF A FIBRO-CYSTIC TUMOR.

It will be remembered that, at the meeting of the "Obstetrical and Gynecological Society of Baltimore City," held January 12th,

I exhibited a specimen of a very large fibro-cystic tumor which I removed the day before from a woman at the Union Protestant Infirmary. I then promised to give you a history of the case and of the operation at a future meeting, and I am here this evening to fulfil that promise. I also desire to show to you, by a photograph which I made myself, the appearance of the abdomen before the operation.

In January of this year, Mrs. J. M. came under my care at the Union Protestant Infirmary. Upon questioning her, I found that she was 40 years of age, and born in this State. She first menstruated at eleven years of age, and it has come on regularly every four weeks ever since, each period lasting four to five days, but not being too free, and causing no pain to speak of. Five years ago, she weighed one hundred and sixty-three pounds; three years ago she noticed that she was losing flesh all over her body, except in the abdomen, where she had a heaviness. The abdomen has been increasing in size for the past two years. In June last she measured around the abdomen thirty-eight inches, and in July forty inches.

During the past two years, she has suffered with dragging and bearing-down feelings in the back, and pains frequently shooting through back and abdomen. At times she would pass a very small quantity of urine. Bowels generally regular. Two years ago, and also last summer, she laced tightly. She did so because she was told to do it, and not that she felt better from it, for she noticed no change in her feelings. Only from worry would she have headaches. She has been married twenty years. The "facies ovariana" was observed, and showed the lines of care well depicted upon it. She was confident that each day she was getting larger in the abdomen, and her strength daily lessening; she said she must be helped, and if there was a chance for her to be relieved of the tumor she would like to have it removed, as she felt that she could not last longer as she was, her sufferings having increased the past four or five months.

Upon examining the belly, I found dulness on percussion over the whole abdomen in front; uncertain and indistinct resonance on percussion in the left lumbar region; clearness in the right; below the umbilicus and to the left side, upon palpation, fluctuation was distinctly felt. By digital examination per vaginam, pelvis was clear, and the uterus measured three inches in length. From this examination and because of the great size of the tumor and its rapid growth during the last few months, it was decided that surgical interference was imperative. So on the 11th of January, the patient being etherized by Nathan R. Gorter, M.D., I made an incision four inches in length, in the median line, beginning two inches above the pubes. As soon as the cavity was opened, there was great discharge of bloody serum. Pressure upon the tumor by the finger gave the sensation of fluid within.

The trocar (Wells') was pushed into the tumor, but only a little blood escaped. The incision was enlarged to six inches and further exploration made with the hand, when it was found to be a tumor in which the uterus and ovaries were involved.

The incision was carried above the umbilicus, the length of incision then being eleven inches.

The tumor grew from the whole back part and side of the uterus; it was attached to the left iliac fossa, left brim of pelvis, and left side of the abdominal walls back to spinal column. It was attached also to the omentum, intestines, and bladder.

The omentum could be peeled off, but its vessels were very large, so that in many places it had to be ligated and cut from the tumor in sections.

The intestines were situated behind and above the tumor which at its lower part projected prominently forward over the symphysis pubis, and evidently contained fluid, so that I was in doubt whether it was a cyst or the bladder distended with urine.

This point was cleared up by passing a sound into the bladder, which accurately outlined the extent of its attachments to the tumor, and with the sound as a guide, I punctured the cyst and evacuated a pint of transparent straw-colored fluid, which spontaneously coagulated, and the sac only in part collapsed. With great difficulty the bladder was separated from the tumor, but numerous bleeding points had to be ligated before the oozing from its surface was controlled. By hard pulling and pushing, the huge mass was slowly drawn forwards, as far as its connections to the back and left side of the pelvis would permit. The intestines were carefully peeled off, the attachments being so dense and vascular that they could only be separated by gathering them up in sections, applying double ligatures, and cutting between, so that when the tumor was freed from its pelvic and abdominal adhesions there were thirty-three ligatures left in the abdominal cavity. During the operation she lost very little blood. As all vessels were clamped or ligated as soon as the tumor was free, I placed Keith's hysterectomy clamp around the uterus, just above the vaginal junction, and cut away the mass. Three drainage tubes were introduced, one to the bottom of the pelvis, and others at different points in the abdominal cavity. The reason for introducing so many drainage tubes was on account of the great amount of bloody serum that poured out from the surfaces of the extensive adhesions.

The stump was closely trimmed, and the portions above the clamp touched with liq. ferri subsulph. The wound was closed with nine silver wire sutures, and iodoform freely sprinkled around the stump, the usual dressing applied, and the patient placed in bed.

Just before the operation she was given, by the mouth, a table-

spoonful and a half of whiskey in some water. The heart's action not being good, ether was the anesthetic given. Her pulse, under the ether, in the beginning was 100, and very feeble. During the operation it was necessary to give her repeated hypodermics of whiskey, and she received by this means 3xvi. (℥ 960). A syringe was used which holds ℥ 75.

During the operation her body was kept warm by hot bottles and blankets. The operation lasted one hour and twenty-five minutes. She never reacted, and died in twenty-six hours from shock. Much bloody serum flowed from the drainage tubes, and the abdominal cavity was washed out several times with bichloride of mercury, sol. $\frac{1}{2000}$, the fluid being thrown in through one tube and flowing out freely through the others.

Previous to operating, the urine was chemically examined, and was found to be acid in reaction; color, deep amber hue; specific gravity 1.020; slight amount of albumin (heat and nitric acid tests); measurement around the body forty-six inches.

The tumor weighed thirty-one pounds after much bloody serum had drained from it. The tumor was placed in the hands of Dr. Wm. T. Councilman, of the Johns Hopkins University, for examination, and I herewith read you his report:

JOHNS HOPKINS HOSPITAL,
BALTIMORE, January 27th, 1886.

Dr. Robert T. Wilson.

DEAR SIR:—The following is the result of my examination of the specimen you sent me. The smaller mass, which presented the appearance of a bifid uterus, was found to be a portion of the uterine canal with a large myoma on either side. These were the size of small oranges, and one was degenerated in the centre. The large mass was smooth on the surface, and gave unmistakable fluctuation. Attached to the surface was a Fallopian tube and a cornu of the uterus. The tube was elongated and dilated.

On section, the tumor presented a fibrous appearance, was very edematous, and contained numerous cysts of various size. These cysts did not communicate with one another, and were filled with a clear, straw-colored fluid. Some of them contained, attached to their walls, large masses of fibrin. At various points in the edematous tissue of the tumor were small, round, nodular masses, which projected above the cut surface. The fluid contained in the cysts was slightly alkaline, gave, on boiling, an abundant precipitate of albumin, and had a specific gravity of 1.017. Microscopic examination of the tumor showed that it was a typical fibro-cystic tumor. The small, hardened nodules showed a myomatous structure very little altered. In other portions there was very extensive hyaline and mucoid degeneration. The tumor was covered by peritoneum, which could be stripped off. Very truly,

W. T. COUNCILMAN.

When undertaking the operation, I was in doubt as to the exact character of the tumor, whether it was a fibro-cystic tumor of the uterus or a compound multilocular tumor of the ovary. It was so large, and growing so rapidly, and the sufferings of the woman so great, that she demanded relief, and desired to undergo any

operation which would give her a reasonable chance for life, and hence I made every preparation either for an ovariectomy or a hysterectomy.

DR. THOMAS OPIE said he would like to ask Dr. Wilson whether he had ever had signs of poisoning or local irritation from the use of so strong a solution of the bichloride of mercury as one in two thousand. Judging from his experience with corrosive sublimate in obstetrical practice, one part in two thousand was much too strong. In one of his cases it had caused a severe metritis. He called attention to statements recently published that biniodide had proved to be quite as effective as the bichloride, and can be safely used as a germicide, the strength of one in four thousand.

DR. W. E. MOSELEY, in regard to washing out the abdominal cavity with so strong a solution as that advocated by Dr. Wilson, would merely repeat the remarks he made at a previous meeting. He considered that in placing such a solution in contact with so extensive an absorbing surface as that presented by the peritoneum and abdominal contents, there was great danger of general poisoning, and also of local irritation. He believed that all the requirements would be met by the free use of freshly-boiled water, used directly from the vessels in which it was boiled.

DR. W. P. CHUNN asked how soon the fluid removed from the larger or main tumor coagulated, and what its appearance was.

DR. R. T. WILSON answered that, as he had stated in his paper, the fluid was straw-colored, and coagulated within two hours.

DR. H. P. C. WILSON stated that he had repeatedly used the bichloride solution in the manner and strength advocated in the paper read, and had never seen any bad effects follow; Dr. Thornton and other English surgeons use the same solution freely.

DR. T. A. ASHBY remarked that Dr. Hofmeier, of Berlin, had reported in the AMERICAN JOURNAL OF OBSTETRICS, as far back as May, 1884, several cases of poisoning from the use of weak solutions of corrosive sublimate in the puerperium. Battlehner has observed that sublimate solutions of one in four thousand for vaginal injections will produce some irritability, and in view of this fact, he thought solutions of one in ten thousand were sufficiently active for vaginal injections. What is true in this respect of vaginal injections is applicable to the use of the bichloride solution in abdominal surgery. The peritoneal membrane is a far better absorbent surface than the vaginal or uterine mucosa. When it is considered that the strength of the sublimate solution of one in two thousand is equal to three and one-half grains of the bichloride of mercury to the pint of water, and that frequently the abdominal cavity is irrigated with from one quart to one gallon of this antiseptic wash, an idea may be had of the danger of absorption from the ten, fifteen, or twenty grains of bichloride in this manner used. In abdominal surgery the strength of the bichloride solution should be feeble. Dr. Ashby thought a solution of one in ten thousand amply sufficient when employed in this manner, and that the stronger solutions were dangerous in proportion to their strength.

DR. A. H. ERICH thoroughly agreed with the view expressed that for douching the abdominal cavity freshly-boiled water would meet all the requirements. If there were any suspicious points they could be touched with a sponge wet in the bichloride solution. He had nearly lost a patient from carbolic acid poisoning, and it

had put him on his guard against the too free use of corrosive sublimate. He thought a great deal depended upon the condition of the peritoneum, and that we ought always to be on our guard lest free absorption and poisoning should take place.

DR. T. A. ASHBY read the following paper:

THE INFLUENCE OF PREGNANCY AND PARTURITION UPON ORGANIC
CARDIAC DISEASE.

During gestation the heart is called upon to perform increased duty in maintaining the circulation of an increased volume of blood, of an increased arterial tension, and in distributing the blood-supply into new and rapidly developing vessels and tissues. As a result of this assumption of greater exercise and frequency of ventricular contraction, hypertrophy of the left ventricle is constantly found in the pregnant woman. The heart is prepared in a physiological way for the extra duty exacted of it, and it continues to perform this duty until the influence of pregnancy is withdrawn. Of the various modifications imposed upon the female organism by pregnancy, none is more astonishing than the functional activity of the heart under the influence of gestation and parturition. The test of cardiac soundness seems to be thoroughly tried. If any defect exists in the circulatory apparatus it is most likely to be made manifest under the trial to which it is subjected. Assuming that a healthy circulatory system is required to meet the extra strain and ordeal of pregnancy and labor, we should expect to find organic heart disease unfavorably influenced by these conditions, and especially by the latter function, as the disturbances of the heart's action are more pronounced under the ordeal of severe exercise than at any other time. Under the influence of uterine contraction, the large volume of blood distributed to the uterus is suddenly thrown back into the general circulation, and must be provided for by vaso motor influences. Alternate contraction and relaxation take place with great suddenness, and, unless the compensatory laws which preside over the entire circulatory system work with promptness and energy, disturbances of a more or less serious character are unavoidable. The equilibrium of the circulation must be maintained by the promptness with which the heart and blood-vessels—arteries, veins, and capillaries—adjust their action to the rapid change of conditions which occurs in labor. Aside from the profound moral impression which labor makes upon the majority of parturient women, the physical exertion and the sudden disturbances of the blood-supply to the uterus call for the expenditure of great energy and force upon the part of the heart and its vessels, a force which is not easily measured by any other standard of exercise to which woman is subjected.

When the heart is prevented by disease from adjusting itself to the conditions mentioned, variable influences will be experienced. The extent of these influences must depend upon the character of

the organic changes, or upon the character of the labor. It is well known that patients suffering from serious organic disease pass through the ordeal of labor triumphantly. The compensatory action of the heart, if disturbed at all, is fortunately adjusted, and delivery takes place, it may be, with no alarming symptoms. If such be the happy termination of labor in even the majority of cases suffering from organic cardiac disease, it is not the invariable rule. The late Dr. Angus Macdonald some years ago collected twenty-eight cases of pregnancy complicated with cardiac disease, of which seventeen died during labor. Macdonald's observations led him to formulate the opinion that the evils resulting from pregnancy in connection with cardiac disease are due to two causes: first, destruction of the equilibrium of the circulation which has been established by compensatory arrangements; secondly, the occurrence of fresh inflammatory lesions upon the valves of the heart already diseased.

Spiegelberg attributed the grave symptoms of mitral disease, presenting themselves during labor, or soon after confinement, to excessive distention of the right heart with blood forced from the contracted uterus. Fritsch opposed this idea, and attributed the morbid phenomena of mitral disease to the accumulation of blood in the abdominal vessels recently released from the pressure of the gravid uterus, and to the cardiac paralysis resulting from an insufficient blood-supply, and consequent defective nutrition of the heart.

The influence of pregnancy and labor upon the circulatory apparatus may be viewed from three standpoints: 1st, the influence exerted upon the heart and blood-vessels affected with organic disease prior to pregnancy; 2d, the influence exerted upon the heart's valves and upon the heart's action during uterine contraction; 3d, the permanent damage which the heart sustains from the influence of pregnancy and labor.

It is proposed to consider these conditions in the briefest manner, as the discussion of this subject cannot be elucidated by any important clinical facts within our possession. We must draw surmises rather than offer data to establish conclusions.

1st. The influence of pregnancy and labor upon organic cardiac disease may be considered as unfavorable. A heart already crippled by disease is poorly prepared for the increased exercise and disturbing influences of labor. The heart is called upon to put forth unusual effort during uterine contraction in consequence of the irregularity of the blood-supply to the uterus and pelvic organs. The entire circulatory apparatus is required to function under extraordinary conditions, and any weak point in the construction of this circulatory apparatus is exposed to imminent danger. If the heart itself is at fault, the damage will be inflicted upon it, resulting in impaired or suspended action; or if the defect reside in artery, vein, or capillary, rupture of one of these vessels

may be the result, with circumscribed or general extravasation of blood into surrounding tissues; cerebral hemorrhage, pelvic hematocele, or effusions of blood into cellular tissues are not unknown results of the influence of labor upon the vascular system.

2d. The influence exerted upon the valves of the heart and upon the action of the heart during uterine contraction is extremely variable. As the general rule, the cardiac valves are capable of sustaining the increased tension thrown on them by uterine contraction. The right heart may, however, become over-distended, and the phenomena of mitral disease may manifest themselves. We have elsewhere stated the opposing views of Spiegelberg and Fritsch in regard to this question. It seems to us that there is truth in both of these theories, and that over-distention or insufficiency of the blood-supply to the heart may equally well account for the phenomena of cardiac irregularity or paralysis. The heart's action may undoubtedly become tumultuous, labored, or disturbed by the diminution, or by the increased pressure, of the blood-supply. The exceedingly rapid action of the heart following violent post-partum hemorrhage is an explanation of the effect of diminished blood-supply to the cavities of the heart. It can make but little difference whether the blood-supply is simply diverted and thrown into the pelvic vessels, as suggested by Fritsch, or whether it is lost by escape from the uterine sinuses; the temporary effect upon the heart must prove the same. Over-pressure of the blood-column upon the heart's valves might be sufficient, under extreme conditions of arterial tension, to induce temporary or even permanent insufficiency, or a rupture sufficient to destroy cardiac action at once.

3d. Permanent damage to the heart and vascular system is not an impossible result of the influence of pregnancy and labor. The physiological hypertrophy of the left ventricle is undoubtedly compensatory, and, so far as it goes, actually improves the circulation; but, whilst this may be necessary to maintain an increased blood-pressure and arterial tension under ordinary circumstances, it is probable that, under certain conditions, permanent enlargement and even dilatation of the heart may persist after gestation. As a result of the extra strain of pregnancy, valvular inflammation may supervene and permanently impair these structures by plastic deposits or by ulceration. During labor, the pressure exerted upon the valves may likewise result in permanent incompetency. There may, therefore, persist a stenosis or incompetency of either the mitral or aortic valves.

There is no clinical evidence, however, in our possession to establish these conclusions, but they seem tenable on purely anatomical and pathological grounds.

Where organic lesions exist prior to pregnancy the case is different. The influence of pregnancy and labor can scarcely do

otherwise than promote further pathological changes, even though the ordeal of labor is successfully passed through.

Macdonald takes an unfavorable view of the prognosis of labor associated with cardiac disease. His statistics show a mortality of sixty per cent. He was so impressed with this idea that he considers marriage contra-indicated when cardiac disease is known to exist. This suggestion, if acted upon, by those who have knowledge of the existence of cardiac diseases, would, no doubt, do away with not a few of the serious complications of child-bearing. The dangers of wedlock should at least be explained to such persons by the family physician, whose advice is often sought, if not always accepted by his patients. Should cardiac trouble be recognized after pregnancy has been established, the existence of a diseased heart should arouse the obstetrician's interest and anxiety. The ordeal of labor is not to be considered with levity, if the history of the following case is in keeping with the usual behavior of such cases:

During the latter half of the month of December, 1880, Mrs. M. called at my office and engaged me to attend her in her approaching confinement. She was between six and seven months advanced in her second pregnancy. The appearance of my patient made an unfavorable impression upon me, and I made close inquiry into her condition. She was tall, slender and anemic, and was below par in general health. She had suffered with distressing nausea, weakness and anxiety during gestation, and expressed serious forebodings of her approaching confinement. I found, upon physical examination, that both the mitral and aortic valves of her heart were defective. She had a decided mitral regurgitant and an aortic obstructive murmur. The heart was hypertrophied. It was performing its duty with regularity and force. Pulse good; no edema or dropsy. Her condition was one of general debility, anemia, and nervous excitement. I saw this patient several times during the next few weeks, and gave her such instructions in regard to her confinement as were deemed advisable in the way of prophylaxis.

On the night of February 28th, 1881, I was hurriedly called to attend this patient in labor. Being absent from my office at the time, it was over a half-hour before the message reached me. I hastened to the patient's bedside, and, upon entering her room, found her in the most alarmed and excited condition. She was tossing herself from one side of her bed to the other, throwing her arms about in confusion, and crying "Help!" "I am dying!" "Do save me!" and other wild and terrifying exclamations. I soon restored a degree of quietude, and made an examination. The child had been delivered fifteen or twenty minutes prior to my arrival, but the placenta had not come away. Introducing my finger into the vagina, I found the placenta firmly attached to the upper left segment of the uterus. I removed it with some difficulty. The uterus at once contracted firmly, and hemorrhage ceased. Ergot and brandy had been given hypodermically. The amount of blood lost prior to my arrival was considerable. I estimated it at between sixteen and twenty ounces. There was no bleeding after the detachment of the placenta, and, as far as I

could determine, the amount of blood lost was not sufficient to account for the great depression and alarming condition of my patient. The firm contraction of the uterus and suspension of the flow of blood failed to exercise any beneficial influence upon the patient. Her nervous, excited, and alarmed frenzy broke out with renewed violence, and, in spite of every injunction, she would not be quieted nor comforted. Her circulation may be described as horrible. The heart was beating with great violence, irregularity, and excitement. Its action was thumping and tumultuous. It vainly and vigorously attempted to expel the flow of blood emptied into its cavities, but with such poor success that pulmonary congestion was soon established, respiration was hurried and embarrassed, and dyspnea was becoming alarming. The circulation at the wrist and in the lower extremities was barely perceptible, though the heart beat was heard some inches from the thorax. The action of the heart continued this irregular, tumultuous beat until about 1 o'clock A.M., when suddenly its action suspended, and my patient died with the exclamation on her lips, "I am dead."

The closing scene of this drama is better remembered than described. It suggested the total inability of human skill to establish a normal condition when organic disease has entered in to complicate a physiological function.

Reviewing the symptoms observed in this case, I was convinced then, as I am at the present day, that the post-partum hemorrhage was not sufficient in itself to have accounted for the death of my patient. I doubt not the hemorrhage was an important factor in the disturbance of the heart's action, but had this organ been in a condition to perform its physiological function, the loss of blood sustained would have imposed no severe hardship upon this patient. Organic disease had so impaired the working power of the heart that the moment extra effort was required of it to preserve the equilibrium of the circulation, it broke down in the performance of its duty and failed to adjust itself to the requirements of the situation.

DR. ERICH said that some six or seven years ago he was called in consultation to see a woman who was some four months pregnant, and had some form of organic heart disease, the exact character of which he did not remember. The question to be decided was whether or not abortion should be induced. He advised allowing the woman to go on to full term, and was afterwards called upon to attend her in her labor. He used morphia in quantities just sufficient to control the nervous system, and when labor pains fairly set in, used chloroform, systematically, and delivered very slowly by forceps, simply helping each contraction. The result was perfectly natural recovery. He thought that, if Dr. Ashby had been able to be with his patient from the first, the result would have been very different, as he believed that the death was due rather to the nervous disturbance than to the hemorrhage.

DR. W. T. HOWARD said that he had listened with great pleasure to the reading of Dr. Ashby's lucid and interesting paper. He thought, however, that the statistics collected by Dr. Macdonald,

giving a mortality of seventeen out of twenty-eight cases, or sixty per cent, from the deleterious effects of pregnancy and parturitions on chronic organic disease of the heart, much higher than is usually seen in private practice. He had attended many ladies in private practice during their accouchement who were suffering from severe cardiac lesions, and he did not remember a single death. Dr. H. felt well assured that he would be sustained in this statement by our president, whose experience in obstetrics, as we all know, is immense. He would ask if such had not been the result of Dr. Miltenberger's experience; if such cases did not usually safely pass through the pangs and perils of labor with due care and attention? The mortality in the cases under discussion would doubtless vary with the nature and extent of cardiac lesions. It is now well known that there is a physiological hypertrophy of the heart during pregnancy, to sustain the burden imposed by the demands of a quickened circulation and the complicated exigencies of the constantly growing uterus. Some cardiac lesions are much more dangerous than others. Thus mitral stenosis is especially apt to occur during the period when child-bearing is most active (rarely occurring after 50 years of age) and is at least twice as frequent in females as in males; and as stenosis of the mitral orifice is generally accompanied by mitral insufficiency, this complicated condition is particularly dangerous during pregnancy and parturition. Aortic stenosis, also, is generally associated with aortic insufficiency, more or less, and is always accompanied by hypertrophy of the left ventricle. So long as the hypertrophy is sufficient to compensate for the regurgitation, grave symptoms seldom supervene. Dr. H. well remembered attending a lady, some fifteen years ago, aged 25 years, who had well-marked aortic stenosis and, also, slight insufficiency. The labor was severe and protracted, and, finally, the vital forces began to flag, and orthopnea was distressing. But by propping up the shoulders and delivering with the forceps, all went well. This lady is now living and enjoys fair health. When the mitral regurgitation is the predominant lesion, the patient may long remain free from distressing symptoms. The left auricle first feels the strain, from pressure of the two blood currents during diastole, one from the left ventricle, and the other from the lungs, and begins to dilate and hypertrophy. This leads to compensatory hypertrophy of the right ventricle, which overcomes pulmonary hyperemia and its inevitable train of dreadful sufferings. And as long as hypertrophy of the right ventricle is sufficient to counterbalance the effects of regurgitation, serious symptoms do not result. Dr. H. remembered the case of an eminent literary gentleman, from Virginia, who consulted him in April, 1861, and who had a loud mitral regurgitant murmur. He is now living, and ably editing a newspaper, and occasionally writing excellent poetry.

It was very probable that, had Dr. Ashby been present when delivery occurred in his case, and rendered proper assistance with the forceps, as he certainly would have done, and promptly removed the placenta, his patient's life would have been saved. It is to the last degree important in all cases of labor occurring in women suffering from organic affections of the heart, that the accoucheur be present from the commencement to the close, in order to render prompt assistance in any exigency that may occur. But it is not always easy to discriminate between organic and inorganic murmurs, so as to determine whether a

given case has a functional disorder or an organic lesion of the heart—a practical point of great moment, to which Dr. Ashby did not allude in his well-written paper. Some years back, Dr. H. had seen a gentleman, in consultation with his good friend, Dr. J. W. Houck, of this city. Six physicians, some of them excellent auscultators, saw the patient; three thought the loud systolic murmur indicated grave organic, and three were equally confident that it was inorganic, and induced by extreme anemia. The latter opinion proved to be correct, as the murmur completely subsided under appropriate treatment.

In that remarkable book which so charmed the medical mind about a third of a century ago, its eminent author¹ directed special attention to the difficulties encountered in *anemia gravidarum* in distinguishing between true organic lesions of the heart and what he terms "*seeming diseases of the heart*." He draws, in his own striking and inimitable manner, vivid pictures of the latter, characterized by palpitation, great increase in the area of cardiac pulsation, dyspnea, orthopnea, etc. Even now, the chapter he devotes to the subject will well repay perusal. Dr. H. attended a bright mulatto woman, in the spring of 1862, during the last two months of her pregnancy, but was unable to be present at her accouchement. She was extremely anemic-anasarcaous, and suffered dreadfully from slight exertion. Anemic, soft, and blowing murmurs were well marked over the heart and in the carotids, accompanied by a venous hum. But Dr. Meigs' statement that the most extravagant deviations in the heart's action in such cases are greatly lessened, or wholly disappear, so long as the woman remains at rest in the recumbent position, was beautifully exemplified. This is a diagnostic point of great importance; for, as Dr. Meigs forcibly states, though the derangements of the heart's action are frightfully aggravated, when organic lesions exist, by exertion, they do not wholly disappear in a state of profound rest.

DR. GEO. W. MILTENBERGER said that in his experience cases of confinement complicated by heart disease almost always resulted favorably.

DR. THOS. OPIE considered that, although the bellows murmur heard during pregnancy is generally due to hydremia, yet he saw no reason why pressure of the enlarged uterus against the abdominal aorta should not cause a regurgitant murmur under certain circumstances at the aortic valves. He felt certain he had seen reference to the same idea in print recently. So long as there was the physiological slowing of the pulse following labor, he felt safe, always considering an increase in the heart beat shortly after labor as a warning of approaching hemorrhage, or later on of blood poisoning.

DR. HOWARD thought it very improbable that the pressure of the uterus or any intra-abdominal tumor against the aorta would cause *any* heart murmur. He would ascribe such a murmur either to anemia or previous valvular disease.

DR. T. A. ASHBY closed the discussion by saying that he fully coincided with Dr. Erich's views in regard to the inadvisability of inducing premature labor or abortion in cases of pregnancy with advanced cardiac disease. There are two objections to the method: first, the effort of delivery in premature labor is, if anything, more injurious to these cases and more liable to bring about

¹ Chas. D. Meigs, M.D., "*Woman; her Diseases and Remedies*."

disturbances of the circulation than labor at full term. In the second place, premature labor almost of necessity involves the destruction of the child, and thereby jeopardizes two lives, whereas in labor at full term the life of the child is not necessarily complicated by reason of the existence of cardiac disease in the mother. In the case reported by Dr. Ashby, a vigorous, healthy child was born, which to some extent compensated society for the loss of its parent. Dr. Ashby recognized the importance of the points stated by Dr. Howard. In the case he had reported, the diagnosis of organic cardiac disease was carefully made, and functional heart murmurs were discounted. The patient had no edema, no anasarca, and her anemia was not sufficient in itself to have accounted for the mitral regurgitation and aortic obstructive murmur. The patient had a previous history of rheumatic endocarditis which unmistakably accounted for organic changes. He was clearly of the opinion that the hemorrhage following the delivery of the child was insufficient to account for the disturbance of the heart's action, and he believed that this loss of blood could have been avoided had he been present at the birth of the child. On the other hand, the hemorrhage was not in itself sufficient to have destroyed the life of this patient. Had the equilibrium of the circulation been provided for by compensatory arrangements, and the duty of maintaining the circulation been performed by the heart, its action would not have ceased. In referring to the prognosis of pregnancy in cardiac disease, Dr. Ashby agreed with the views expressed by the President and by Dr. Howard. He thought Dr. Macdonald had taken a too unfavorable view of the prognosis. Macdonald had reported a mortality of sixty per cent, which was certainly very high. In a recent discussion before the Obstetrical Society of London (*Brit. Med. Journ.*, April 24th, 1886, page 781), the subject had been discussed, and this view of Macdonald's prognosis had been expressed by several speakers. The practical point to be considered in connection with cases of pregnancy associated with organic cardiac disease has reference to the treatment of the patient during labor. Knowing that cardiac disease exercises an unfavorable influence upon the prognosis of labor, the obstetrician should give close attention to his patients, and should see that the condition of the heart was not influenced by excitement or other causes liable to induce shock or suspended action.

DR. W. E. MOSELEY reported the following:

A CASE OF INTRA-PERITONEAL OR POST-PERITONEAL ABSCESS.

Mrs. F., aged 25, a light mulatto woman, between two and three years ago first noticed a painful swelling occupying the right iliac fossa, and which confined her to her bed for several days. The tumor developed rapidly, was accompanied by pain, was sensitive to the touch, and was coincident with a decidedly constipated condition of the bowels. The patient attributed the trouble to straining or bruising from carrying heavy market baskets. A blister was applied, and in a few days the swelling disappeared and no more attention was paid to it until last November. At that time she was in the country nursing her sister, whom she had to lift, and who was a very heavy woman, and while thus employed the swelling reappeared. On her return home she was

seen by various physicians, who gave her internal medication, but without producing any diminution in the size of the tumor.

I first saw her February 26th, and at that time obtained the following history in addition to the facts already related. Menstruation had been regular and without marked pain until about seven years ago, when it ceased and has not reappeared, but at each period since there has been some pelvic discomfort. She has never known herself to be pregnant. General health was always good until the first appearance of the tumor, nearly three years ago, since which time she has been failing. Bowels rather constipated, but appetite very good. Examination of the abdomen showed a well-defined oval tumor occupying the right iliac fossa, about six inches in its longest diameter, parallel to the crest of the ilium, and extending about three and one-half inches toward the median line. It was somewhat sensitive on deep pressure, and had an elastic feel as though there might be fluid confined beneath thick but tense walls. The swelling could not be felt per vaginam. There was a sharp, cervico-corporeal antelexion of the uterus, and on the left lateral wall of that organ was a small fibroid tumor about the size of a hickory nut, with its attachment nearly on a line with the internal os. There was no connection between the abdominal tumor and the uterus. The bowels were constipated, but kept open by enemata and laxatives. The pulse averaged about 84, and temp. about 99°. The patient was confined to her bed nearly all the time from weakness, abdominal discomfort, and inability to walk.

For about two months I tried the effects of counter-irritation with iodine and blisters and the persistent use of heat, together with copious hot vaginal douches, and general tonic treatment, but the tumor increased slightly in size, and on April 20th, assisted by Dr. C. H. Riley, a thorough examination was made under ether, which confirmed the results of the previous examinations. An aseptic hypodermic needle was introduced about two inches anterior to and on a line with the anterior superior spinous process of the right ilium, and clear laudable pus withdrawn. Both Dr. Riley and myself thought that a free opening with drainage would give the patient the best chances of recovery in the shortest possible time, so, under the free use of a one-in-two-thousand solution of bichloride of mercury, an incision two inches long was made two inches from and parallel to the crest of the ilium, and extending down to the peritoneum. The peritoneum and sac of the abscess were stitched together by two rows of interrupted sutures, three on each side, after the greater part of the pus had been removed by the aspirator. An incision was made between the rows of sutures, a rubber drainage tube introduced and made fast to the abdominal wall, and the skin and muscle brought together by two silk sutures. About five ounces of pus were obtained. The abscess was washed out, morning and night for several days, with

one-in-eight-thousand bichloride sol., iodoform sprinkled around the incision, and the whole covered with tarred jute. The discharge was very slight from the first. On the second day the pulse reached 102 and temp. 101.9° , but after that the pulse ranged between 80 and 90, and the temp. between 98 and 99° F. in the axilla. The drainage tube was removed on the fifth or sixth day, and the cavity washed out once daily. The patient sat up on the fourteenth day, and since then the cavity has been washed out every second day. The abdominal incision healed by first intention. There now remains a sinus extending about two inches inward and slightly upward, the induration is rapidly disappearing, and there is no more pus obtained than can be accounted for by the walls of the sinus.

The questions of special interest to me at the time of the operation were, in what tissue and from what cause did the collection of pus originate, and what was the prognosis? My opinion was that the abscess was intraperitoneal and due to an old perityphlitis, or in the cellular tissue behind the reflection of the peritoneum, with a decided leaning toward the former. The condition of the patient at the present time, I think, demonstrates pretty clearly that the abscess was not due to necrosed bone.

DR. HOWARD had seen a somewhat similar case in a child four or five years of age. The abscess was opened freely, and about a pint of pus evacuated. The child recovered.

DR. ERICH would consider the cause as probably perityphlitis.

DR. MILTENBERGER thought that such abscesses frequently occurred without our being able to trace them to any specific cause. He thought the one reported by Dr. Moseley was probably situated in the cellular tissue behind the reflection of the peritoneum.

DR. H. P. C. WILSON said he was absent at the last meeting of this Society when Dr. Chunn's paper, describing the removal of an ovarian tumor from a negro woman, was under consideration. As this operation was done at the Hospital for the Women of Maryland, under his service, and by his assistant, he would be considered as indorsing the correctness of the case as reported should he hold his tongue.

He now rose to protest against this case going on record as an ovarian tumor in a negro woman. It was clearly to his mind a tumor of the uterus. It grew from the whole posterior surface of the uterus as low down as the vaginal junction. It grew from the fundus uteri, and also from the upper part of its anterior surface. It was attached to the left broad ligament and the left ovary. The tumor, the uterus, the left broad ligament, and left ovary were so inseparably blended in one mass that he thought Dr. Chunn wisely decided that the only hope for the woman was to remove the uterus, with tumor and left broad ligament and ovary, as low down as they could be clamped. This he did with the recovery of his patient. At the close of the operation, Dr. Chunn requested him to adjust his chain hysterectomy clamp, prior to cutting away the mass, and in performing this act he had ample opportunity to observe accurately the growth of the tumor from the uterus and its adjoining attachments, and he was *then* satisfied that the tumor was uterine in its origin and growth, and he is

equally satisfied *now* that it was a cysto-sarcoma of the uterus, and not an ovarian tumor. Although he had examined a great many negro women, he had never seen an ovarian tumor in one. He had consulted a great many physicians on this point, and had never found one who had seen an ovarian tumor in a negress. He had never heard or read of this kind of tumor being found in the African race. Dr. Atlee mentioned such a tumor as occurring in a woman three-fourths white; she was certainly not a negress. Dr. Chunn's operation was performed on Dec. 22d, 1885, and the patient died on April 24th, 1886, after she had entirely recovered from the operation and had been walking about the city for several weeks. Dr. W. T. Councilman, pathologist to the hospital, in his report of the post-mortem, says that he "found nodules on the surfaces of the liver and spleen, and all over the peritoneal surfaces. The omentum was rolled up into a solid cord as large as a child's arm. It extended into the pelvis, and formed part of the mass found there. Microscopical examination proved the nodules to be sarcomata. It seemed certain that none of the tumors could be regarded as primary. It is probable that the original tumor, which was removed by Dr. Chunn, was a sarcoma, or had some sarcomatous tissue in it."

DR. HOWARD said that he differed entirely from Dr. H. P. C. Wilson in regard to the diagnosis of the case under discussion, and was as positively certain as he could be in respect of any diagnosis whatever, that the case was one of *ovarian* cystoma. At the Woman's Hospital there is a law requiring that no capital operation be undertaken in the Hospital without consultation between the surgeons in charge. In obedience to this law, Dr. Chunn brought the woman to Dr. Howard's clinic. There were present Dr. H.'s assistants at the hospital, Dr. Chas. H. Riley, Dr. Chas. O'Donovan, Jr., and also Dr. Chunn and Dr. L. Ernest Neale. Each of these gentlemen carefully examined the case, and all agreed that it was one of *fibro-cyst of the uterus*. Dr. H. dissented and expressed the opinion that it was an *ovarian cystoma*. Dr. Neale requested Dr. H. to give the reasons for his opinion and Dr. H. did so.

It is well known that the frequency or infrequency of a disease is a matter of great importance in questions of difficult diagnosis, and that when one disease is frequent and the other proportionally rare, the physician naturally inclines to a diagnosis of the most common affection. But that, as in the negro race ovarian cystomata and uterine fibro-cysts are almost equally among the rarest of all rare affections, infrequency of occurrence as an element of differential diagnosis is not available. Still, it is a well-established fact that *ovarian* cystomata are everywhere much more frequent than uterine fibro-cysts; hence in any case in which the diagnosis is narrowed down to these two affections, the chances are in favor of *ovarian* disease, unless they are impaired by some other clinical data that may be fairly considered as an off-set. But Dr. H. knew of no such considerations that could be advanced in this case; on the contrary, they rather increased the evidence in favor of the case in hand being *ovarian*. Thus we all know that the *rate of growth* in the two affections is, in an immense majority of cases, very different, and that uterine fibro-cysts usually grow much more slowly than ovarian cysts. In Dr. Chunn's case about three years had elapsed since the woman had noticed that her abdomen was gradually enlarging symmetrically from below up-

wards, and then measured fifty inches in circumference around the largest part of the abdomen. And certainly it is *not uncommon* to observe ovarian cystomata developed to such a size in three years, while, on the other hand, it is *very uncommon* for a uterine fibro-cyst to attain such a size in the same space of time. Again, the *age* of the patient militated strongly against its being a uterine fibro-cyst. Thus, of twenty-eight cases of fibro-cysts of the uterus cited from various authors in Dr. H.'s address before the American Gynecological Society in Washington City, in September last, only four were under thirty-four years; generally they were from forty to fifty. The only case of fibro-cyst of the uterus that Dr. H. had seen published, as occurring in a woman as early as twenty-four years of age, was one reported by Dr. Hunter McGuire, in the second volume of the *Philadelphia Medical Times*. But Dr. Chunn's case was only twenty years of age. Has Dr. Wilson ever seen or heard or read of any case of uterine fibro-cystic tumor occurring at that early age in any woman of any country, race, or condition in life? But who is it that does not know that ovarian cystomata are *common at that age and long before?* And Dr. H. repeated that, in respect of frequency of occurrence, whether in this country or abroad, it is a universally admitted fact, that a fibro-cystoma of the uterus, in comparison with an ovarian cystoma, is a *very rare disease at any age*. In his immense experience, embracing more than one thousand laparotomies, Lawson Tait has only once seen a fibro-cystic tumor of the uterus.

Now let us consider what light the operation threw upon the question at issue. When Dr. Chunn had cut down upon the cyst, what color did it present? It is well known that a dark and congested appearance is characteristic of a fibro-cyst of the uterus, and that it strongly contrasts with the clear, pearl-like conjunctival blue of most ovarian cysts. And so typical was the appearance of an ovarian cyst in Dr. Chunn's case that when Dr. Wilson saw it he said: "Howard, I believe your diagnosis is right." When the fluid was drawn off, it presented the dark, chocolate appearance and unctuous character so often seen in ovarian cystomata. But when Dr. Chunn drew out the cyst, Dr. Wilson re-asserted his original opinion that it was a fibro-cyst of the uterus. Dr. Chunn hesitated what to do, but finally removed the uterus somewhat above the junction of the cervix with the corpus. Dr. J. Edwin Michael, *professor of anatomy* in the University of Maryland, then carefully examined the specimen, and demonstrated to the entire satisfaction of all the physicians present who had diagnosed the case as a uterine fibro-cyst, that they were completely mistaken—with the single exception of Dr. Wilson—and that it was an *ovarian cyst*. When the specimen was subsequently exhibited before the Clinical Society of Maryland, Prof. Michael said: "An examination of the specimen will show that the uterus is free from adhesions to the tumor on both its anterior and posterior surfaces, and is only connected with it by means of adhesions of the broad ligament. The tumor, in other words, having its proper pedicle on one side, had become adherent to the broad ligament on the other side, and these adhesions could have been ligated and cut, and the tumor removed, as is usual in such cases, with less danger to the life of the patient than that in which she was exposed in the operation done."¹ And, as Dr. H. was informed, there was not a dissenting

¹ Maryland Medical Journal, April 24th, 1886, p. 503.

voice in regard to the diagnosis of *ovarian* cystoma among all the physicians present who saw and examined the specimen. Thus it appears that all the physicians who saw the woman before the operation was done, and committed themselves to the diagnosis of a fibro-cystic tumor of the uterus, and were subsequently present at the operation and personally examined the specimen, frankly confessed that they were mistaken in their diagnosis, and that Dr. Howard's diagnosis, from first to last, was correct, with the sole exception of Dr. Wilson, who stands solitary and alone in his erroneous diagnosis. And further, that all the physicians at a meeting of a large medical society, who had never committed themselves to any diagnosis, and only saw and examined the specimen, were as one in the diagnosis of *ovarian* cystoma.

As to what Dr. Councilman found in the dead body of a woman four months after a severe and protracted illness—that has obviously nothing to do with the accuracy of the diagnosis at and before the operation, for, certainly, no one who witnessed the operation can say that, with the exception of the cyst removed by Dr. Chunn, there was any evidence whatever of any morbid condition in the abdomen and pelvis.

DR. CHUNN said that, having reported the case under discussion as an ovarian tumor, which diagnosis having been questioned, he would give his reasons for the opinion he then held and still continues to hold. The whole history of the case pointed to ovarian disease, viz.: the short time of growth (three years), the youth of the patient (twenty years), the shape of the abdomen, and the area of dulness and fluctuation. The facies ovariana was strongly marked. Moreover, when the abdomen was opened there appeared a cyst of a *glistening, pearl-like hue*, containing a pathognomonic thick, *chocolate-colored* fluid, which did not coagulate. These signs were given in every book on the subject he had ever read as certain and undoubted evidence of ovarian cyst. In regard to taking out the uterus, he wished to make himself equally plain. The uterus was imbedded in the anterior wall of the sac, as he had before said, and was attached by the posterior and left lateral aspect, the right border only being free. All those who saw the pelvic relations *in situ*, viz.: Drs. O'Donovan, H. P. C. Wilson, and himself, agreed that the attachments were of the most intimate character. The opinion of the other gentlemen present was derived from the relations of the tumor to the uterus *after extirpation*, as they had no opportunity to inspect the relations while in the pelvis. Their opinion was incorrect, and for the following reasons: When the uterus and sac were cut away, in order to leave plenty of tissue in the bite of the clamp, the amputation was begun high up above the chain and was made in an obliquely downward direction; so that, when the sac was at last taken away, only the left horn of the uterus went with it, the rest of the uterine tissue being trimmed away afterwards. This occurred because the chain of the clamp was hidden from view by the overlapping parts. And again, the uterus and sac being lifted up by an assistant as the cuts were made by scalpel or scissors at *different* distances above the clamp, the parts all spread out in such a manner that the relation of the uterus to the sac was simply impossible to be made out *after removal*. At the time of operation he was of the opinion that those present were in favor of hysterectomy. Certain it is that no dissenting voice was heard until after the operation was completed.

DR. MOSELEY was present at the meeting of the Clinical Society at which Dr. Chunn reported his case and exhibited the specimen. He had carefully examined the specimen and had no doubt that it was an ovarian cyst, and he felt certain that was the opinion of all who examined the specimen, among them being Drs. Keirle, Councilman, and Tiffany. He did, however, consider that, *judging from the specimen shown*, the operation *as done* was not justifiable, as he believed the cyst could have been ligated and removed without involving any portion of the uterus.

DR. CHAS. O'DONOVAN, JR., said he too wished to add a few words in regard to this case. Dr. Chunn requested him before the operation to stand opposite him and sponge, which he did during the entire operation, so that, after him, he had the best opportunity of any one to see the condition of the parts in the abdominal cavity before the removal of the tumor, and he could state, without hesitation, that before the tumor, with the uterus, had been cut away, it was next to impossible to make out the exact amount or the locality of the attachments that existed. He knew that Dr. Chunn had been very severely criticised in his method of operating, by those especially who saw the tumor for the first time after it had been removed from its surroundings, when the cut edges of the enormously thickened, broad ligament could be turned back, thus exposing the tumor from below, and giving a clear view at once of the location of the pedicle and its extent, but he desired to say, in defence of Dr. Chunn, that the view he had of it during the operation, and from above, was very apt to mislead. The tumor, in developing, had gradually spread out the broad ligament and pushed it before it, being all the while intimately connected with its inner surface, so that to say, at the time of the operation, when, through the escape of the contents of the cyst mixed with blood, the appearance of the different tissues in the cavity had become very indistinct, where the exact ending of the broad ligament lay on the cyst-wall was next to impossible. In more than one operation that he had witnessed, he had seen the same thing happen, but usually, by very careful inspection, it was possible to make out the line of junction, when, by cautiously peeling off the ligament, the cyst could be shelled out, as it were, from its covering. From the criticisms made upon this case, one might infer that Dr. Chunn hastily applied the clamp and cut off the uterus, without making any examination of the attachments whatever, but nothing could be further from the case: he very carefully went over the mass more than once, both in front and behind, but nowhere could he make out the line of junction. It was only then that he determined to do a hysterectomy, in preference to cutting away the great mass of the tumor and leaving part of the cyst behind. After the operation, when Prof. Michael had demonstrated that the tumor was not attached directly to the uterus, as was apparent from the view beneath the broad ligament, it seemed plain to all, except Dr. H. P. C. Wilson, that the uterus should never have been removed, but he would repeat that, until that moment, it was impossible for any one to say for certain what was the attachment of the tumor. One word for the diagnosis: Before the operation, as Dr. Howard had stated, he and all who saw the case, except Dr. Howard, inclined to the diagnosis of fibro-cyst of the uterus, but with a considerable margin of doubt; after the operation we all, except Dr. H. P. C. Wil-

son, conceded that we had been wrong, and that the tumor was ovarian.

DR. A. F. ERICH exhibited a new tourniquet he had invented for the temporary compression of the stump in supra-vaginal amputation of the uterus. The tourniquet has the usual male and female screw, but the canula is made somewhat heavy, and the eye at the end large enough to allow the loop of a rubber tube the size of the little finger to be passed through. The ends of this rubber tubing, which is used in place of wire or catgut, are tied together and hooked over a stout hook attached to the shaft of the instrument. By this arrangement the tubing can be repeatedly loosened and tightened without the annoyance and delay occasioned by tying and untying the knot, or danger of bruising the parts.

The general impression of the members present was that the instrument would prove a very useful adjunct in the cases for which it was intended.

TRANSACTIONS OF THE GYNECOLOGICAL SOCIETY OF CHICAGO.

Meeting, Friday, May 28th, 1886.

The President, DANIEL T. NELSON, M.D., in the Chair.

The Secretary, DR. EDWARD WARREN SAWYER, read the following letter from Mr. Lawson Tait:

7, THE CRESCENT, BIRMINGHAM, April 14th, 1886.

MY DEAR DR. NELSON:—If not too late, I should like to take part in the discussion which was entered into at the Gynecological Society of your city upon "Abdominal Section for Pelvic Abscess." My remarks, of course, are discursive and not very conclusive, because they are based upon only a very few points to which I want to draw attention.

The first is this: I object to the use of words ending in *otomy*, to mean various operations, all of which are practically identical in character but different in detail, and not one of which can have any exclusive or absolute identification by any particular name. Thus, Professor Christian Fenger, in the discussion, objects to the use of the word laparotomy, and he introduces another which is perfectly new to me, and I hope it will never be used again; it is *oncotomy*. Dr. Fenger objects to laparotomy in a sense where I certainly have no objections, and his very objections only show how utterly absurd all these words are. There really ought not to be any such word as laparotomy in existence, because the signification of its derivatives in the use of the people who spoke the language is such that it could not by any human ingenuity be applied to any modern surgical proceeding. Now the words

"abdominal section" are sufficiently English to be understood by everybody, and they are sufficiently distinctive to enable us to understand at once that when they are used the peritoneum is opened. I therefore wish, through your powerful Society, to protest against the use of all these stupid words of Greek formation. I wish also to protest against the absurd distinctions drawn by Sanger, which are quoted by Dr. Fenger on the subject of pelvic abscess.

He distinguishes six kinds of salpingitis.

1. *Septic*, the existence of which I entirely dispute as a specific ailment.

2. *Tuberculous*, which again I deny, except that it has an existence as the third and contracting stage of pyo-salpinx.

3. *Syphilitic*; not one particle of evidence of this have I ever seen.

4. *Actino-Mycotic*, which is an equally ridiculous subdivision, based on mere theory, not on fact.

5. *Gonorrheal*; to which the great bulk of the cases belong.

6. *A mixed form*. Instead of this sixth, or mixed form, I would say that there are a great many cases to which we cannot attribute any actual origin, a number of cases occurring in virgins where the existence of gonorrhea would be an impossibility, and where there was no puerperal mischief.

Dr. Fenger's paper has always seemed to me to be an illustration of the German savant evolving the descriptions of the camel out of his own consciousness. My descriptions, on the other hand, are taken from some hundreds of cases upon which I have performed operations, and the history of which I know as completely as it is possible to obtain information.

In Dr. Reeves Jackson's paper, there are two points to which I want specially to draw attention, and they are not of much importance, because they are chiefly questions personal to myself.

The first is a passage in which it is said "Lawson Tait, of Birmingham, and Martin, of Berlin, were the first who attempted to prevent the terrible contingencies of pelvic inflammations by attacking the disease at its original seat; Lawson Tait removed the suppurating uterine appendages, Martin operated for suppurating peri-uterine hematocele. Tait operated for a suppurating hematoma of the right Fallopian tube in 1878, and he removed both tubes for pyo-salpinx, and an ovary for abscess in 1885. In 1885, Martin performed laparotomy in three cases of intraperitoneal hematoma, namely, retro-uterine hematocele." Now accuracy of date in a matter of this kind is rather important for one's own personal reputation, and Professor Reeves Jackson has underestimated my claim for priority by at least seven years. The first operation which I performed for suppuration of the uterine appendages was done on the 11th of February, 1872, and there will be found in the last edition of my book on "Diseases of

the Ovaries" twenty-two cases which I had performed up to the middle of August, 1882, without a death. Since then I have operated upon hundreds. The first case of suppurating hematocele which I operated upon is published in detail in the same book; it was in February, 1879, and since then I have operated upon thirty-two cases without a death, and all have been completely cured. It will thus be seen that in none of these matters have the German surgeons approached English surgery as rivals in priority. They have been mere followers in every particular, and I regret to say their following has been practised without that recognition to which our priority gives us every just claim.

The second point is that in which I find Professor Byford speaking in terms of my own work, which no words of mine can sufficiently recognize or express my appreciation of, and here certainly his words of caution are worthy of a little note. What I fear, in fact what I already feel, is that the remarkable success which I have had, and of which Professor Byford speaks in such strong terms, is really leading astray those whose opportunities have not been as my own, into the belief that the work is easy, simple, easily acquired, and free from risk. It is not so, and unless those who practise it choose to follow me in the rigid precautions and immense care which I give, not only to the mere performance of the operation, but to the surroundings of my patients and to every detail in connection with them, they will not obtain, they must not expect, the success which I have had. I have said that I fear, in fact I already feel, that this success of mine is leading people astray, and I want to urge in the name of humanity, as well as for the sake of the art we practise, that there should be less of the indiscriminate rushing into this kind of work which has been already deplored on both sides of the Atlantic. I am, etc.,

LAWSON TAIT.

DR. A. REEVES JACKSON said: We ought, I am sure, to feel honored by having among us in spirit, if not in person, so eminent a man as the writer of this letter. Lawson Tait is in some respects the greatest living surgeon, a Gamaliel at whose feet we all find ourselves sitting, and, withal, a man so observant that not a single gynecological sparrow falls in any part of the world unnoticed by him. I must plead "not guilty" to the charge—made against me by Mr. Tait—of inaccuracy regarding the date of his first laparotomy for pelvic abscess, the remarks upon this point having been made by another and not by me. As stated in the letter, his first operation of this nature was done February 11th, 1872, at Birmingham, on a patient of Mr. Hallwright. I am sure that Mr. Tait will not for a moment suppose that any of us would willingly do injustice to one whom we all esteem so highly, and from whom many of us have been recipients of acts of kindness and courtesy.

In regard to the justice of Mr. Tait's criticism on the prevalent use of the words ending in "otomy," I do not feel like being an arbiter. Technical words are frequently necessary, and yet, as a general rule, I think it preferable to use simple language. The ordinary English words are commonly sufficient to answer all the

purposes of language. Besides, large and unusual words are sometimes embarrassing. When, some weeks ago, Dr. Fenger charged me with performing an "oncotomy," I was afraid that I had done something very dreadful, and the worse because I did it without knowing it. I felt very much as the fisherwoman did when Daniel O'Connell, in response to her volley of ordinary, undecorated profanity, called her a parallelogram. The fisherwoman did not know what to say, and I could not reply; we both had evidently lost the thread of the discussion. I am glad that Mr. Tait speaks so strongly in regard to the tendency now so frequently indulged in to perform laparotomies, and that he is willing to correct, to some extent, by his words the mischief that has been done by his powerful and successful work. It seems that, when some persons visit Mr. Tait and witness his success and simple but effective methods, they come back thinking life is a blank unless they can own and manage an abdominal hospital, and spend the remainder of their days in the cheerful occupation of removing uteri and ovaries.

DR. CHRISTIAN FENGER said:

The letter which Mr. Lawson Tait wrote to Dr. Nelson relates, in a number of points, to my paper on "Laparotomy for Perituterine Abscess," as well as to some remarks which I made before the Society in a previous discussion. I must, therefore, beg the Fellows of the Society to bear with me if I take up a little of their time in answering Mr. Tait's letter.

Discussing Dr. A. Reeves Jackson's paper, I objected to calling the operation in question a laparotomy. According to the doctor's description of the case, he had opened an abscess which was adherent to the anterior abdominal wall. He had consequently simply performed an oncotomy—an operation which, notwithstanding the division of the abdominal wall, does not differ materially from opening a deep-seated abscess in any other region of the body, as *e. g.*, in an extremity.

Whether opening the abdominal or peritoneal cavity be termed laparotomy or abdominal section or *Bauch-Schnitt* is, of course, a matter of indifference, provided only that the meaning of the word be agreed upon. There is but one way of getting at the signification of a medical term, and that is by learning in what sense the term is employed in the medical literature of the different nations.

I must again maintain that laparotomy is not merely section of the abdominal parietes, but that the word implies opening of the general peritoneal cavity, with a view to perform some operation within that cavity. (See Linhardt's "Operationslehre," Wien, 1862, p. 705; and Eulenburg, "Realencyclopædie," Bd. II., p. 37.) French authors occasionally use the word gastrotomy instead of laparotomy. Recently the operation has been called peritonotomy, which, on account of its correctness, should perhaps be preferred to the other terms.

It is of importance to distinguish between a laparotomy and the evacuation of a limited abscess by simply incising the abdominal wall. The two operations differ widely as to their consequent dangers. Where the general peritoneal cavity is opened, a well-known series of precautionary measures is required before and during the operation, in order to protect the patient from general septic peritonitis.

Where an incision through the abdominal parietes leads directly

into a limited abscess cavity, the precautionary measures essential to laparotomy may be dispensed with; the general peritoneal cavity is not opened, and there is no fear of general peritonitis. In the latter operation, the peritoneum is not seen or not taken notice of; the incision wound is left open, and the limited cavity washed out and drained.

In every country, medical authors hold these two operations apart. Opening a perityphlitic abscess, an adherent hepatic abscess or a parametritic abscess above Poupart's ligament is never spoken of as a laparotomy. Whenever we hear or read of a man having performed a series of laparotomies, we naturally suppose that he is experienced in performing intra-peritoneal operations. Now, many a surgeon has opened a large number of intra-abdominal abscesses and has never seen the peritoneal cavity.

It is evidently important properly to limit the meaning of the term laparotomy; else we may misunderstand the description of a given case, and the statistics of laparotomies will necessarily be rendered valueless.

The next point Mr. Lawson Tait remarks upon is the question of priority of operating for pelvic hematocele.

By the mistake of Mr. Tait, part of what I said in the discussion of Dr. Jackson's paper is ascribed to the paper itself. I am thus quoted in his letter:

"Lawson Tait, of Birmingham, and Martin, of Berlin, were the first who attempted to prevent the terrible consequences of pelvic inflammations by attacking the disease at its original seat. Lawson Tait removed the suppurating uterine appendices, Martin operated for suppurating periuterine hematocele."

In the discussion, I stated the dates at which Tait and Martin performed their respective operations. By a typographical error, the dates appeared wrong in some of the copies of the transactions of the Society. 1885 instead of 1872 was given as the date of Tait's first laparotomy for abscess of the ovary, and 1885 instead of 1876 as that of Martin's first laparotomy for extra-peritoneal hematocele.

Considering my remarks as a whole, and examining my references to the literature on the subject, a careful reader would not have failed to recognize in the wrongly printed dates a typographical error.

Lawson Tait performed his first laparotomy for extra-peritoneal hematocele in February, 1879. (See Lawson Tait: "Diseases of the Ovaries," 4th edition, London, 1883, p. 346; and Tait's letter.)

Martin performed the same operation for the first time in 1877, and a second time on the 31st of January, 1879. (See A. Martin: "Das extraperitoneale periuterine Hæmatom." *Zeitschrift für Geburtshülfe und Gynecologie*, VIII. Bd., Hft. II., 1882, p. 476.)

It will thus be seen that my statements concerning priority were correct. In the discussion of Dr. Jackson's paper, I quoted Säger's classification of pelvic inflammations. In criticising it, Mr. Lawson Tait speaks of "absurd distinctions." I wish to repeat that I regard Säger's classification as complete and correct and in accordance with the laws governing inflammatory processes in all organs of the body.

To Mr. Lawson Tait's manner of criticising my little paper "On Chronic Periuterine Abscess and its Treatment by Laparotomy,"

which appeared in the May number of the *Annals of Surgery*, 1885, there is but one answer.

Like all published articles, it is open to criticism. If anybody should wish to attack it, I am ready to enter into a discussion of it, provided that tangible objections to it be brought forward.

THE PRESIDENT exhibited specimens removed from

A CASE OF SUPERNUMERARY DIGITS.

He said: While I know the condition is not exceedingly rare, I thought the specimen was so beautiful as to be worthy of presentation to the Society. The specimen consists simply of two supernumerary little fingers, which I found in a beautiful, healthy baby just after it was born, attached by small pedicles, consisting simply of the skin and the vessels needed to supply them, about the middle of the first phalanx of the little finger; the pedicles were perhaps one-sixteenth of an inch in length, just long enough to ligature. They look like little beans; the finger nails are fairly developed in both. They were very vascular. They looked, before removal, like bangles. This was the sixth pregnancy; the other children were all perfect; no other case of this condition in the family is known. The condition is usually hereditary. In one, there is a very good nail formed; upon the other, there is only a slight nail. The mother is in good vigor and health. They were united to the larger little finger about the middle of the first phalanx—one was just about the middle of the phalanx, on the outer border; the other, half-way between the middle line and the outer border; they both feel as if there are bones in them—two phalanges in each, the third being represented by the pedicle.

DR. CHARLES T. PARKES read the following paper, entitled:

UTERINE FIBROIDS TREATED BY THE FLUID EXTRACT OF ERGOT.

My intention is to relate to you the history of four cases of uterine tumor, and to present a few remarks suggested by them. These four cases were treated by the internal administration of Squibb's fluid extract of ergot. They all resulted in recovery by expulsion of the growth.

I found no insurmountable difficulty in giving the medicine, although when given for a prolonged period it creates nausea and disgust in some. This was counteracted, and the pain following its use controlled by combining it with morphine. It seemed to me preferable to the hypodermatic use—the latter being locally painful and often producing abscess, besides it is not followed by any better result. Two of the cases, treated by ergot, when thrown off, proved to be pure uterine fibroma, dense and hard, white and glistening when cut open, consisting of simple fibrous tissue. The other two, following the action of ergot, were soft myomata, pultaceous and semi-elastic, consisting mostly of connective tissue, confirming the diagnosis made. All four of these

were evidently submucous tumors, or so slightly interstitial as to be practically covered only by mucous membrane.

Case I.—Mrs. S., American, 43 years old, widow, three children, no miscarriages, menstruated first when 16 years old. Never had any noticeable trouble with menstruation until three years previous to my first examination; during these years she had suffered with irregular profuse hemorrhages, which were now continuous, accompanied with exacerbations on the slightest exertion. My first examination was made February 20th, 1876. As my memory brings this patient before me, she presented the most perfect example of transparent flesh that I had ever seen. A large, finely formed woman, her flesh looked like alabaster, apparently destitute of blood. The legs were edematous, the heart beat feeble and rapid, and the slightest exertion was followed by extreme palpitation and the most fearful feelings of suffocation. Her answer as to what she had done for her trouble was that she had taken "quarts of medicine." Vaginal examination revealed an enlarged uterus and patulous os, from which blood was rather freely oozing. The sound entered the uterus about five inches, the handle being deviated forwards and to the left side. A diagnosis of submucous uterine fibroid was made.

The treatment adopted was the administration of strychnia and iron, together with wine and good diet for the general condition, and one-half-drachm doses of Squibb's fluid extract of ergot every six hours, to either expel or kill the growth. Locally, to stay the hemorrhage, a small tampon of pulverized alum was applied to the os uteri, and held in position by ordinary cotton tampons.

The first forty-eight hours' use of the ergot produced quite severe uterine pains, so acute that the patient in her weakened condition said they were unbearable. At this visit Dr. T. D. Fitch was with me in consultation. The tampon of alum was removed, and Dr. Fitch's examination confirmed the diagnosis made, and advised the continuation of the treatment. As the bleeding had been entirely controlled by the tamponade, it was left out. The ergot was continued as before, and a sufficient dosage of morphine ordered, to make the pains bearable if they persisted. No further use of the tampon was required, the uterine contractions never ceased while the ergot was administered. On the sixth day of its use a foul-smelling serous discharge came on *per vaginam*, accompanied with slight general chilliness and a temperature of 102° F. The patient was assured that the tumor was surely coming away, and encouraged to bear "yet awhile" with her great suffering. On the eighth day the tumor was found in the vagina and removed. It was about the size of a duck's egg, and very hard to the touch. After a short period of mild septic trouble, the patient passed through a quick convalescence and rapidly recovered. Save a few months ago, she says she has

never had any illness since getting rid of this growth, and certainly looks well.

Case II.—Mrs. P., German, married, five children, no miscarriages, menstruation began at 14, now 37 years old. Seen by myself first in March, 1881. The patient is a robust, hearty woman. Never had any trouble until six months after the birth of last child, about one year ago, when she began to flow too freely and too often—as often as every week, or occasionally twice a week. The blood was in large quantity, and bright-red in color.

The examination revealed an enlarged uterus—it could be felt above the pubis during bimanual examination. The sound entered easily for five inches, the handle deviating forward and to the left. Its use was accompanied and followed by very free bleeding.

Diagnosis.—Submucous uterine fibroid on anterior wall. *Treatment.*—Locally, the alum tampon was used as in the previous case. Squibb's fluid extract of ergot in half-drachm doses every six hours. The patient was ordered to remain in bed. On the succeeding day, all the tampon, except the alum, was removed. No hemorrhage; slight pains complained of. On the second day, the pains were very severe, and morphine was given to control them. The alum tampon was removed, and a carbolyzed hot-water injection ordered three times a day. On the third day, pains still severe, and a foul-smelling vaginal discharge commencing.

This condition persisted until during the night of the eighth day, when I was summoned to the patient on account of the unusual severity of her sufferings, the messenger, her husband, saying it was just as if she were having a baby. On my arrival, the pains had quite ceased. Examination showed the loss of considerable blood, and the vagina was found filled with a large fleshy mass, horribly offensive. The finger could be passed beyond it, and the largely opened cervix recognized. It was seized with a vulsellum forceps, twisted a few times upon itself, and then delivered. The mass was as large as a closed fist, dark-colored, and ragged all over its surface, and very foul smelling. The patient rapidly regained her usual health, and is well to-day.

Case III.—Mrs. E., 33 years old, married, three children living, one miscarriage, menstruation commenced when 14 years of age. Was first called to visit her January 2d, 1885, for severe uterine hemorrhage. She then informed me that she never had any trouble with menstruation until about two years previous.

Shortly thereafter she was operated upon for laceration of the cervix, without much relief to her trouble, since she had gradually grown worse, so that she was not free from bleeding ten days in the month.

One year previous to my seeing her, the uterus was freely curetted, and fuming nitric acid applied to the cavity as a relief for the bleeding. The procedure failed in any good results.

At this visit the bleeding was extreme in degree. Examination

revealed the pelvis largely filled with a smooth, doughy mass. After considerable searching the *os uteri* was found high up above and close to the pubis. It could only be found by crowding the finger between the bone and the growth. The growth was exquisitely tender to the touch or any manipulation. Bimanual palpation discovered an uncertain mass above the pubis. The vagina was tamponed temporarily, and morphine administered hypodermically. The diagnosis was reserved. In my mind it rested between hematocele and soft myoma. The tumor was compressible, at least its elements seemed to give way to the pressure of the finger; it was semi-elastic and painful under manipulation, filled the entire posterior half of the pelvis, and the *os* was carried well upward and forward. It might be, and probably was, a myoma of the posterior uterine wall retroverted.

A few weeks ago I had the satisfaction of seeing the *fac-simile* of this case, so far as the character of displacement and the position of the tumor was concerned, in a patient under the care of Dr. Merriman, although the tumor in Dr. Merriman's case was much harder and more resistant.

Dr. Merriman, with skill and apparently with ease, lifted the tumor out of the pelvis into the general abdominal cavity, after placing the woman in the knee-elbow position—a change bringing much comfort to the patient. I learn that under the use of ergot the growth is already diminishing in size.

The patient was put upon fluid extract of ergot in one-half-drachm doses three times a day. The next menstrual period showed no change other than a diminished loss of blood. In June the flooding was quite free and accompanied with considerable pain. In July everything was as bad as possible, with so much pain that the ergot was discontinued. Repeated examination now narrowed the diagnosis down to soft myoma. The removal of the uterine appendages was suggested, in the hope that this procedure would anticipate the menopause, stop the bleeding, and lead to the gradual atrophy of the growth. In September, consultation was solicited with Dr. W. H. Byford, when the patient was etherized and carefully examined. The sound, introduced with great difficulty, owing to the displaced position of the *os*, passed in over five inches, positively demonstrating the nature of the growth, its consistency showing it to be the soft variety of myoma.

As the patient could not be said to be in absolute danger of her life, the operation was refused by her friends, although the sufferer was willing enough to have it done.

The previous treatment was indorsed by Dr. Byford, and its continuance advised.

The fluid extract of ergot was resumed and rendered bearable by morphine.

The October illness was accompanied by slight hemorrhage, but excessive pain. These uterine contractions continued on after the

menstruation ceased, until, during the last week of October, they became labor-like in character. Examination now revealed that the uterus had righted itself, the os was becoming patulous and its edges thinned out; through its opening the projecting tumor could be felt. On the second day of November, pieces of the broken-down mass, horribly offensive, could be seized with the forceps, pulled out of the uterus and cut away.

Chilly sensations began to be felt by the patient, sweatings came on, the temperature ran up to 101° F., and a mild septicemia was established. During the following week the pains never ceased. Quinia was administered freely. The vagina and uterus were irrigated with hot carbolized injections, and the mass removed as fast as any of it could be reached, and at the week's end the last remnant was gotten away. The patient was very much reduced physically, but rapidly convalesced, and is now perfectly well, with her menstruation normally re-established. Fully a quart of soft pulpaceous pieces of the growth were removed.

Case IV.—Mrs. L., German, 34 years old, one child, was seen first November, 1885. She had been suffering with increased menstrual flow for a year. She came to me to be treated for an external, painful, labial swelling. It proved to be a vulvo-vaginal abscess. It was opened freely and gave no further trouble. A uterine tumor was noticed and examined. It was found to be of considerable size—could be detected above the pubis.

She was put upon one-half-drachm doses of fluid extract of ergot every six hours.

This she continued for six months steadily, with varying conditions of pain and hemorrhage, until, in April, 1886, the hemorrhage ceased, pain became very severe, and a shreddy, foul-smelling discharge manifested itself. She was removed to the St. Joseph's Hospital, and after ten days of antiseptic washings and removal of masses of broken-down tissue, the mass was entirely extruded. This patient had also quite a severe septicemia, but finally recovered and is now well.

Remarks.—Aside from crucial demonstration, it seems reasonable to assert that these four cases were cured by means of the remedy used, and by that alone. It is well known that the most of authorities state that no positive reliance can be placed on the use of ergot. My experience surely, as here illustrated, and confirmed by other cases seen, leads me to think that this adverse judgment must be qualified, especially in the treatment of the sub-mucous bleeding fibroids of the uterus. If the growths be partially interstitial, the less the thickness of uterine tissue between them and the mucous covering the more certain will the remedy be curative. Of course it will be impossible to demonstrate the exact amount of uterine wall forced contractions will destroy, hence a trial of its worth is desirable in all cases not purely sub-peritoneal and pedunculated. Still I am quite convinced the se-

verity of the hemorrhage gives one a good reason to speak *positively* of the results to be accomplished by its use. I have not deemed it necessary to look up the history of the first use of this remedy for stimulating uterine contractions. It is sufficient for me to say that my confidence in the remedy and persistence in its use, even when failure of good results seemed certain, has followed directly as the result of the teachings and experience of an honored Fellow of this Society, Dr. Wm. H. Byford, who has never lost an opportunity to urge upon the profession his belief in the specific action of the remedy, and its absolute certainty of cure in many cases. I am quite sure that Dr. Byford deserves the credit of being the first to make use of ergot with the idea of destroying the vitality of the growth, as well as of causing its expulsion from the uterus.

The third case shows plainly how absolutely unnecessary any operation would have been. The removal of the appendages might have stopped the hemorrhage, but such a perfect cure as now exists could never have followed operation, to say nothing of the harm done by unsexing the woman; still no case could present better reasons for such a procedure, none in which it would have been more justifiable from the indications present. To me it brings the lesson to make oöphorectomy the *dernier ressort* in all cases, certainly to give the remedy used at least a six months' trial without result before operation be sanctioned.

The difficulties attending the differentiation between a sac of fluid and the soft myomata was well illustrated by this case. The sensation communicated to the touch was scarcely distinguishable from fluctuation. It was only after repeated examinations under ether, and the use of the sound, that the diagnosis was satisfactorily settled.

The fourth case, for a time, seemed one in which the treatment would come to nothing. Every one became discouraged. The suffering was increased, and no advance was made, apparently. By persistence the cure was accomplished. In this case operative interference was solicited by the patient, and would have been most readily submitted to, without any urging. If I read aright the indications which authorities give to justify the resort to removal of the uterine appendages, they were all present in this case, and more too, if that were needed. Certainly the final result has proven any such interference would have been uncalled for and lamentable.

I am quite well aware that four cases cannot be considered absolutely demonstrative of any rule, still these four increase the number already published in proof of the curative action of ergot, administered thoroughly, for submucous uterine growths. It is impossible for me to understand how some good authorities can still assert their disbelief in ergot; in fact, calling it the most inert and disappointing of all drugs. No possible argument can disabuse

my mind of the belief that its action was positive and certain in the cases related. No law has as yet been evolved fixing, even by approximation, the period of time required for the effects of the medicine to show themselves. The idiosyncrasies of the patient, the thickness of the uterine envelope, the distance from the mucous membrane, the purity of the drug, and many other conditions, render it scarcely possible that any such law can ever be laid down. The trial should be made patiently and persistently, just so long as the patient's condition will warrant its continuance, and a complete expulsion of the growth, followed by rapid recovery, will be the reward.

DR. F. E. WAXHAM read the following paper, entitled:

OCCLUSION OF THE OS UTERI AS AN IMPEDIMENT TO LABOR, WITH A
REPORT OF TWO CASES.

Having met with occlusion of the os but once in several hundred cases of labor, and knowing of a number of physicians of extensive practice who have never seen this condition present at the time of confinement, I am convinced that it must be of rare occurrence, and the history of two cases may not be uninteresting.

Mrs. S., primipara, 29 years old, German, fell in labor about 9 P.M., February 21st, 1885. The membranes ruptured soon after the commencement of labor and the amniotic fluid gradually drained away.

The patient was seen between 3 and 4 A.M., at which time the pains had become very severe and frequent. Upon examination the head was found low down in the inferior strait, almost presenting at the vulva, and covered apparently by a thin membrane through which the advancing head threatened to burst with every pain. Upon the most careful digital examination no os could be discovered, nor the slightest indication of one. Dr. Nelson was summoned and promptly responded. His more experienced finger detected a very slight dimple in the centre of the presenting tissues. By keeping the finger upon this slightly thickened tissue he discovered that it became very much thinner with every pain, while as the pain subsided the tissues assumed a very slightly umbilicated appearance. By firm and continued pressure upon this suspicious spot an opening was at length effected and the os gradually dilated. As the labor proceeded slowly, and fearing the result to the child of so long a delay of the head in the pelvis, and the os being fully dilated, the forceps were applied. The child was delivered without injury to the mother, but it was asphyxiated and required considerable effort in resuscitation. Dr. Nelson stated that this was the second case that had ever come under his observation, and kindly gave me the history of the following one: He was called to attend a lady in her first confinement, a Swede, 23 years old, and married about one year. Making a hasty exami-

nation, he found a well formed cervix, but did not detect the os. On returning a few hours later, the head had descended to the inferior strait and was, indeed, presenting at the vulva and covered by the cervix, which had become so thin as to resemble the membranes. The membranes had already ruptured and the amniotic fluid had gradually escaped. There was no appearance whatever of the os. It could not be detected with the finger, and the head seemed about to burst through the uterine tissue. The patient was placed before a window, the labia separated and careful search made for the os. Only after a most careful search was it found. It was patulous only to the extent of admitting the very finest surgeon's probe. After this had been introduced and worked about a second probe was passed, and by separating them the os was gradually and sufficiently dilated to allow the finger to enter. The os was then rapidly dilated and labor progressed normally.

I find the literature on this subject quite meagre, many of our writers on obstetrics omitting the subject entirely, while others refer to it very briefly.

Schroeder alludes to it in the following terms:

"As complete atresia of the os prevents conception, it follows that an occlusion of the os, observed in labor, must have taken place during pregnancy.

"Very frequently there is a superficial and easily separable agglutination of the external os. It is due to an inflammatory process of the lips of the os from a previous blennorrhœa. During labor the advancing head is seen to push the lower uterine segment forward to the outlet, and to thin it more and more. This thinning may be so great that the head appears to be covered only by the membranes. By an accurate examination the os feels like a small and soft dimple directed greatly backwards. If, during a pain, the finger or uterine sound be forcibly pressed against the dimple, the agglutination of the os will suddenly give way. The os itself now very readily dilates, and labor proceeds without impediment. Often the pains themselves succeed in breaking down the adhesions of the os.

"It very rarely happens that the os only partially dilates after the agglutination has been torn through and remains rigid so as later to require incisions. There is very seldom so firm an adhesion between the maternal and fetal membranes, in the immediate vicinity of the internal os, that the lower uterine segment cannot retract over the ovum. Separation by the finger or rupture of the membranes renders possible the dilatation of the os."

Schroeder also refers to the fact that a firm cicatricial band may occasionally occlude the os, resulting from inflammation of the cervix or cauterization:

When these firm adhesive bands prevent dilation of the os, there is danger of rupture of the vault of the vagina, unless incisions are made and assistance given. The cicatricial closure of the os is frequently incomplete; more or less fine openings remaining pervious, rendering con-

ception difficult but still possible, is believed by Schroeder to frequently result from ulcerative inflammation during the lying-in state.

Leishman, in discussing this subject, remarks that

"There are some cases in which there seems to be actual occlusion of the os. Impregnation in the case of an absolutely occluded os is as impossible as that the normal function of menstruation should be carried on, and therefore we must assume, in such cases, that the closure must have taken place subsequently to the entrance of the seminal fluid. It is, of course, possible that the os may remain open to a very limited extent, and yet the state of the tissues renders distention impossible, so as practically to constitute an impediment as insurmountable as actual occlusion would be."

Playfair gives the following brief mention of this condition:

"Agglutination of the margins of the os uteri is occasionally met with, and must, of course, have occurred after conception. It is generally the result of some inflammatory affection of the cervix during the early months of pregnancy. Usually it is not associated with any rigidity or hardness, but the entire cervix is stretched over the presenting part and forms a smooth covering in which the os exists only as a small dimple, and may be very difficult to detect at all. Occlusion of the os from inflammatory changes sometimes so alters the cervix that no sign of the original opening can be discovered."

All our authorities agree that the occlusion of the os is the result of inflammatory change occurring subsequent to impregnation. It is a noteworthy fact that in both these cases the membranes ruptured and the amniotic fluid escaped in the very early stages of labor, showing that the membranes were adherent to the uterine tissue about the internal os. As the internal os dilated, rupture of the adhesions and of the membranes necessarily followed.

The discussion of the papers read by Dr. Parkes and Dr. Waxham was, on motion, deferred until the June meeting.

Mr. Lawson Tait, of Birmingham, and Dr. T. Gaillard Thomas, of New York, were elected Honorary Fellows of the Society.

Dr. E. C. Dudley proposed for honorary fellowship Protheroe Smith, M.D., M.R.C.P., of London.

TRANSACTIONS OF THE FIRST MEETING OF THE GERMAN GYNECOLOGICAL ASSOCIATION.

HELD AT MUNICH, JUNE 17TH, 18TH, AND 19TH, 1886.

REPORTED BY M. WIENER, M.D., BRESLAU.

(Continued from p. 885.)

Second Day—Morning Session.

President, DR. WINCKEL.

DR. KALTENBACH (Giessen) exhibited several specimens: a hypertrophic tubal wall due to carcinoma of the uterine fundus, and a

pregnant uterus with sloughy myoma extirpated supra-vaginally. He then spoke of

THE PROPHYLAXIS OF OPHTHALMO-BLENNORRHEA NEONATORUM.

Referring to the favorable results of Credé's method, the speaker inquired whether the successes were due to the primary disinfection of the eye or to the general cleanliness, and whether the same successes could be secured by a milder procedure. Stress is always laid exclusively on infection during labor. This is not strictly correct; he holds the danger of infection during the passage of the child to be not very great; even if the gonococcus is present, infection need not ensue, since the eye of the child is provided with a number of protective apparatus (closure of the lids, the covering of vernix caseosa). A second point in support of his view is the slight morbidity in private practice; he did not believe there were an equal number of infected women in maternity institutions. The examination by different hands, and the transfer from case to case are responsible for the infection in institutions. The examining finger brings the secretions to places where they become dangerous for the eye. Accordingly, primary disinfection should not be accorded the first place. The fact that Credé's method had removed all the primary and subsequent affections is due to the whole system of cleanliness. That silver nitrate alone does not suffice is shown by the varying results at the institutions. Nor is this drug alone a specific; sublimate is equally effective. He was convinced that the same results were obtained by prophylactic sublimate irrigations of the vagina during labor, and washing of the eyes with distilled water. From April 1st until now, no case of ophthalmo-blennorrhoea had occurred in more than two hundred deliveries. The advantage of this procedure lies in its simplicity and freedom from irritation. The eyes are bright and clear, not in the least injected; he would not expose all children to an artificial catarrh of the eyes. Ophthalmologists do not hold two-per-cent solutions of silver nitrate to be indifferent. Schroeder likewise had expressed himself against the obligatory introduction of the disinfection.

DR. ZWEIFEL, some years ago, had instituted quite similar experiments; during this time, no eye became affected; later the disinfection was performed by the nurses, and an epidemic ensued. This shows that the protection is not perfect. He then again introduced Credé's method, and since that time had had no more cases. He had witnessed a blennorrhoeic catarrh of the eye after the use of silver nitrate.

DR. OLSHAUSEN did not agree with Dr. Kaltenbach in some points. If K. considers primary infection to be comparatively not so frequent as transfer in the institutions, this is undoubtedly correct. Nevertheless, we have in the time of onset a proof of the fact that infection occurs primarily during labor. The great majority of the cases become affected at the end of the third or the beginning of the fourth day. He, too, had had the vagina regularly irrigated with carbolic acid, and then the eyes washed first with one-, then

with two-per-cent carbolic solution. Although the improvement was marked, he had still better results with the application of silver nitrate. He considers the latter drug a sort of specific; he had not had equally good results with the use of sublimate, and had again come back to silver nitrate. One serious obstacle to the obligatory introduction is presented by the frequent occurrence of catarrhal inflammations of the eye.

DR. WINCKEL remarked that not one child had been affected since the introduction of the prophylactic disinfection of the eye.

DR. SCHATZ thought that, if silver nitrate were continued, it would be impossible to secure a more general employment. Sublimate did not produce the same results, while silver nitrate is a specific. He did not believe that sublimate had a specific effect on gonococci.

DR. LEOPOLD expressed great satisfaction with Credé's method. When first introduced, there had been several pronounced symptoms of inflammation, some of them even quite purulent. This was traceable to a careless carrying out of the directions; the treatment should be in reliable hands. Kaltenbach's advice to irrigate the vagina with sublimate he thought would prove objectionable in private practice. He had but very rarely seen irritation after the instillation of a two-per-cent solution of silver nitrate.

DR. MUELLER (Berne) looks upon vaginal irrigations as the chief remedy for blennorrhea; he gives them every one or two hours during the second stage of labor. This can be done also in private practice.

DR. PROCHOWNICK.—Before the introduction of silver nitrate for this purpose, he had had about nine or ten cases in private practice. Since the establishment of Credé's method, he had seen no more instances of blennorrhea. He no longer uses prophylactic vaginal irrigations, and holds them to be superfluous.

DR. HOFMEIER.—It is of importance for us to determine definitely which is the effective step in the procedure. In Berlin, the results had been quite as good with antiseptic agents, but less favorable with the use of distilled water.

DR. BUMM.—The carriers of infection are only sparsely present during labor, but increase materially in the next few days. Examinations of gravidæ show this very well; their milky secretion contains but few carriers of infection. During the delivery the number becomes somewhat larger: in the first days of the puerperium, when the secretion becomes sanguinolent, it is very great. Therefore, the infection does not take place during the passage through the parturient canal, but subsequently. The onset of the disease on the third or fourth day does not negative this view; the blennorrhea may be manifest already after twelve hours.

DR. FIRNIG (Cologne).—At the School for Midwives in Cologne, in a portion of the cases (head presentations), the region of the eyes had been washed with ether, and touched with iodoform, immediately after the face had been delivered; and after the birth of the child, the eyes rinsed with water that had been boiled. This treatment simply failed, while no blennorrhea occurred after Credé's method.

DR. KALTENBACH defended the greater disinfecting power of sublimate; he had decided on his procedure only after testing other methods.

DR. CREDÉ.—In the last two years, among more than one thousand labors, he had had but one case of catarrh, and one slight at-

tack of blennorrhea; all the other eyes remained healthy. He had never employed sublimate for instillation or irrigation. Symptoms of irritation after the instillation of silver nitrate are exceedingly rare, and occur mainly in premature children; they may also be due to the incorrect execution of the method. He injects only a minute drop from a glass rod. Before he had resorted to silver nitrate, he had tried milder measures, all of which proved unreliable; hence there must be some specific power in this drug, which he saw no reason to abandon. According to his experience, disinfection of the vagina alone does not suffice. He is averse to giving sublimate into the hands of midwives. The question whether the state should take the matter in hand he thought was not yet ripe for decision; further test was necessary.

DR. ZWEIFEL maintained that solutions of carbolic acid and sublimate, of corresponding strength, were equivalent.

DR. MUELLER (Berne) asked Credé whether the number of eye affections had not greatly decreased since the introduction of the disinfecting method (vaginal irrigations).

DR. CREDÉ was unable to give reliable figures on this point.

DR. STUMPF (Munich) read a paper on

PUERPERAL ECLAMPSIA.

He reported two cases of typical eclampsia at the beginning of the tenth month. In the first, the Cesarean section was performed in the death agony; the second died eighteen hours post partum. In both were found, besides the usual lesions, the signs of acute yellow atrophy of the liver, and terminal icterus. No trace of urea was found in the organs. In the first case, methemoglobin was present in the fresh blood obtained by venesection, and in the scanty amount of urine; besides, large quantities of tyrosin and leucin were found in the liver and urine. In the second case, the same conditions were present, with the exception of methemoglobin, inasmuch as no venesection was performed and no urine was present. Ammonia was not found in the blood, but intense acute nephritis in the kidney; complete anuria in the second case. The speaker believed, as regards the absence of urea, even in the liver, that the processes of decomposition had not extended to the urea, and that intermediary products of tissue metamorphosis had been retained in the body and produced the symptoms of intoxication. Judging from experiments made with a patient recovering from eclampsia, he thought that this supposititious substance is not nitrogenous. Hence there could be nothing like ammonemia and uremia. The changes in the liver, the speaker thought, were terminal phenomena in the group of symptoms. The urine, like that of all eclamptic patients, contained acetone. He had, besides, found sugar in the urine of all eclamptic patients. It is uncertain whence the poisonous substance in the body is derived. It is possible that the child is the source, in reference to which supposition the speaker pointed to the rigor mortis and muscular rigidity in the new-born children of eclamptic patients, which had been observed by Dohrn and himself. This

rigidity should have been retarded or even prevented by the surcharge of the blood with carbonic acid and the asphyxia due to it, as in his case.

DR. WIENER inquired whether the urine had been examined for biliary constituents. (Answered in the negative.) We might suppose a condition of cholemia which likewise produces coma, spasms, and acetonemia. Possibly the kidney affection had hindered or prevented the excretion of the biliary constituents retained in the blood, and thus caused their accumulation in that fluid—a condition indicated among others by Spiegelberg in the icterus of gravidæ.

DR. STUMPF rejected the theory of cholemia, since the icterus did not occur until the very end.

DR. SAENGER.—Muscular rigidity of the child can also ensue in women who did not die of eclampsia, *e. g.*, in fatal hemorrhage.

DR. BATTEHNER (Carlsruhe) believed that eclampsia is due to a substance resembling a ptomaine, formed during life in acute yellow atrophy of the liver, perhaps also in the kidney, which presents similar conditions to those in the liver, *i. e.*, fatty degenerations. Urea alone is not the cause.

DR. STUMPF.—The ptomaines have hitherto been found only as the result of putrefactive bacteria; he would be disinclined to accept this view.

DR. RUNGE (Dorpat) read a paper on

THE GENERAL TREATMENT OF DISEASES OF THE PUERPERIUM.

R.'s method consists of alcohol in very large doses, baths, ample nutrition, and avoidance of antipyretics. Especially the exhibition of alcohol must be very free. The baths should have a temperature of 22 to 24° C. (71.5 to 75° F.). Then, as in typhoid fever, we notice improvement in the pulse, deep inspirations are taken, and the appetite increases. Antipyretics at best influence the temperature, but they disturb the appetite. Of nine patients with grave sepsis, only one died under this treatment. This method strengthens the organism against the germs of infection present.

DR. SAENGER (Leipzig) read a paper on

THE RELATIONS OF GONORRHEAL INFECTION TO PUERPERAL DISEASES.

Gonorrheal infection is more frequent than was formerly stated. In order to make the diagnosis positive, there must be present reliable statements of the husband and the wife, ophthalmia of a child, diseases of the urinary passages and the vulvar glands; especially the latter are specific. He would avail himself only of the clinical standpoint. He had not made regular examinations for the gonococcus, because its presence is inconstant and its differentiation from pseudo-cocci had not yet succeeded. Among 1,930 cases in the last few years, S. had found 230 or twelve per cent due to gonorrheal infection, and in 161 additional cases of more recent occurrence, 29 or eighteen per cent. Far more than half of the cases are incontestably certain. In 100 of 389 gravidæ purulent discharge was noted, *i. e.*, 26 per cent (Oppenheimer had

calculated 27 per cent for Heidelberg); 40 children subsequently became affected with blennorrhea. It is remarkable that gonorrheal infection causes no puerperal infection. Persons infected with gonorrhea differ in no way from others not infected; still in the puerperium gonorrheal affections are very frequent and are not rarely taken for puerperal diseases. Ang. Macdonald called attention to the fact that gonorrheal infection may cause grave, even fatal diseases in the puerperium. Some of these cases, however, were of septic infection. The speaker then related a case of grave gonorrheal infection in the third week of the puerperium, in which he had found on the left side a parametritic exudation, and on the right side a pelviperitonitic exudation in Douglas' cul-de-sac. The suspicion that pyo-salpinx was present on the right side was subsequently confirmed by operation. It is the tubes affected with gonorrhea which in the puerperium give rise to pelviperitonitic exudations running a different course from septic inflammations which are nearly always fatal. Gonorrheal exudations usually run a protracted course and set in late in the puerperium. If we find in parous women recent or older parametritic exudations associated with disease of the adnexa, then these diseases are nearly always of gonorrheal origin. The women affected are those whose tubes had been diseased before and during pregnancy, or else those who, soon after an abortion or labor, had connection with a man infected with gonorrhea. These cases furnish with special frequency pelviperitonitic inflammations with disease of the tubes. Of thirty-five cases of grave gonorrheal diseases observed by him in the time of the puerperium, these formed the majority. That the disease occurs so late is perhaps due to the fact that the gonococci are washed away or that menstruation again occurs, etc. The gonococcus acts only on the surface. For the puerperium, gonorrheal infection presents no very serious danger; hence gonorrhea appears comparatively harmless for the early lying-in period. On the other hand, persons seriously affected with gonorrhea must expect to suffer suddenly, some three to seven weeks later, without any obvious connection with the puerperium. In this way gonorrhea differs essentially from sepsis. These two infections do not concern one another, but mixed forms occur.

DISCUSSION OF THE TWO PRECEDING PAPERS.

DR. P. MUELLER inquired whether Runge's cases included peritonitis and diarrhea; also, how large had been the greatest quantity of alcohol.

DR. GRAEFE.—As long as seven years ago, Schroeder had treated puerperæ successfully with large doses of alcohol. To Saenger's paper he remarked that he had observed a similar case in which disease occurred in the puerperium; in another case he had observed the disease set in after twelve hours, but recovery followed very rapidly.

DR. KALTENBACH.—It has often been noticed that where oph-

thalamo-blennorrhea occurs in the children, febrile diseases affect the mothers. These diseases in particular had confirmed him in his prophylaxis. He doubted that the gonococcus causes only superficial disease. How then could we explain the strictures in man caused by gonorrhea? He believed, on the contrary, that the gonococci penetrate into the depth of the tissues.

DR. BUMM thought it impossible to make the diagnosis clinically. Neither the history nor the discharge would be decisive. Two clinical symptoms alone could be utilized: inflammations of the vulvo-vaginal glands, and urethritis. A bacteriological examination alone could decide. The parametritic inflammations might be due rather to the *Staphylococcus aureus* or *albus*.

DR. ELISCHER.—The antipyretics disarrange the stomach. He had obtained the same results with cold ablutions as with baths.

DR. SCHAUTA agreed with Dr. Runge. Puerperæ bear alcohol very well; they burn it up soon; it supports respiration and fortifies the cells in their struggle against the invasion of micro-organisms. But we must also guard against the further introduction of microbes, especially through the uterus which, as it were, is a dead space. He called especial attention to the iodoform treatment (iodoform bougies).

DR. GUSSEROW.—The alcohol treatment is very old. He had not seen much good from antipyretics, and had all along given alcohol, but had always met with much opposition on the part of the patients. He would also like to know how the large quantities of nutriment are given to the patients; they usually refuse them. Alcohol can only be looked upon as an adjuvant.

DR. MUNDÉ.—In America, alcohol is given in the shape of cognac or whiskey, about one litre per day, together with drugs to improve digestion (pepsin), if necessary. Cold he applies by means of the rubber ice-coil applied to the abdomen. Besides, he gives antipyrine. In reply to Saenger he stated that he had seen salpingitis without gonorrhea in virgins.

DR. V. SÆXINGER had, long before Breisky, instituted the alcohol treatment, giving large quantities (one to two litres) of domestic wine per os and rectum, and had also attended to vigorous nutrition; yet he had never witnessed recovery after very grave diseases. Alcohol should only be looked upon as an adjuvant. He had not had much effect from antipyretics.

He was surprised at the high percentage of gonorrhea which Saenger had observed; he does not see the affection with a like frequency. The following he believed to be a reliable clinical symptom: in women affected with gonorrhea, he had observed, aside from the intense reddening and intumescence, especially a swelling of the papillary bodies on the surface of the mucous membrane, and on the eminences, through loss of epithelium, small ecchymoses which, in conjunction with the other symptoms, are pathognomonic. He had also seen in young girls two cases of salpingitis which were undoubtedly gonorrheal in character.

DR. FEHLING referred to Zweifel's investigations with regard to germs of decomposition in the living organism, and his success with the ice treatment after laparotomies. Immediately after the expulsion of the placenta, the speaker had ice-bladders laid upon the abdomen, in order to avoid the lesser wound fevers which so frequently give rise to the spread of the puerperal fever. The result was very satisfactory. After omitting the ice-bladder, he had again witnessed a series of slight rises of temperature. He

recommended the ice-bladder as a prophylactic against the lesser wound fevers.

DR. VEIT (Berlin) expressed surprise that nothing had been said about the value of local treatment of puerperal diseases. Owing to the movements associated with baths, he had frequently observed grave symptoms traceable to the detachment of thrombi. He had given antipyrine when first introduced, but he did not think it indicated, as it disturbs free observation. He rejects the iodoform bougies recommended by Schauta.

DR. KUESTNER expressed himself in favor of the local treatment recommended by Fischl which is likewise in use at Jena. He also advised the early vaginal diagnosis and treatment of puerperal ulcers.

DR. KRUKENBERG had also observed rigors after cold baths (16° R. = 68° F.), and, in one case, metastases at the autopsy.

DR. FIRNIG (Cologne) recommended hydropathic packs, *i. e.*, wrapping the patient in a wet sheet which is to be covered with a woollen blanket.

DR. WINCKEL thought, with reference to the opinion of Saenger and Noeggerath, that in Leipzig, owing to the great influx of strangers, conditions similar to those in New York prevail, and that in both cities opportunities for infection are frequent. In Dresden, among seven hundred autopsies, he had never found a case of death due to acute gonorrheal infection. In Munich, however, he had observed several very grave cases of gonorrheal infection with exudations. The speaker also made mention of cauterizations with liquor ferri sesquichloridi and their favorable effect. He had saturated some sterilized silk with the cocci of erysipelas and then dipped it into the iron solution. Later, when he employed the silk on rabbits, erysipelas either failed to develop or else did so very slowly.

DR. RUNGE reiterated that his method simply invigorated the organism and rendered it more capable of resistance. The alcohol alone did not do it; it must be given in conjunction with baths, but very freely, then the appetite also improves. The majority of his nine cases belonged to the so-called lymphatic form, with very weak pulse, peritonitis, etc.

DR. SAENGER said that his material comprised persons of every station, residents and strangers, but no prostitutes. Gonorrhea is a universal disease, and there can be no city to which it might impress a special stamp, as Winckel maintained. If physicians were to make it a point to look for gonorrhea in every gynecological examination, they would throughout obtain figures similar to his own. According to Kaltenbach's view, there would have to exist a parametritis gonorrhoeica. Clinical demonstration had always sufficed formerly and does so still. If Bumm thinks it impossible to make, he should first bring forward the true coccus, and not ever new forms of cocci. Where else could the frequent diseases of the adnexa and the pelvic peritoneum come from? Some etiology should be named. He would adhere to his opinion, and did not believe that catarrhal inflammations of the tubes can cause pyo-salpinx, nor that injuries could lead to it. Pyo-salpinx is always due to infection; but the gonorrheal form is the most frequent.

Halle was chosen as the next place of meeting.

Second Day—Afternoon Session.

President, DR. WINCKEL.

DR. ELISCHER (Budapest) read a paper on

THE USE OF IODOFORM IN SEVERE LAPAROTOMIES.

He related a case of double ovariectomy in which both pedicles and a portion of the mesentery had been dressed with iodoform; in the pedicles were gaping vessels which were ligated. During the first two days, the patient felt very well, but there was absolutely no thirst. On the following day, uterine hemorrhage, great restlessness, sopor, slight icterus; temperature normal, pulse increased in rapidity. On the next day, the icterus was more intense, urine dark brownish-red. When the patient was touched with a cloth dipped in ice-water, deep respirations were evoked. Gradual return of consciousness, temperature normal, pulse still frequent. The patient recovered. After other operations, too, in which iodoform had been used, the speaker had witnessed remarkable symptoms (excitement, bilious vomiting, spells of weeping, immobility of the pupils, restlessness, etc.). All these he ascribed to the effect of the iodoform. He advised to close all gaping vessels by the ligature, since they might absorb the iodoform. Besides he keeps up the activity of the skin. His experience warned us to consider to what extent iodoform should be used.

DR. FROMMEL had not introduced iodoform into the abdominal cavity under normal conditions, but had used the drug extensively in two cases of tubercular peritonitis. The temperature of the first patient sank to the normal immediately after the operation. In a third case of ovarian tumor with ascites he found small papillae all over the peritoneum and introduced iodoform in large quantities into the abdominal cavity; in this case it was likewise very well borne.

DR. SLAVIANSKY (St. Petersburg) had also observed a case of intoxication after a myomectomy in a fat patient in whom carbolic acid and iodoform had been used. Delirium and death ensued. The autopsy showed all the appearances of septicemia. Thus far we did not know the clinical picture of iodoform intoxication; it can easily be confounded with septicemia. Hence we must be very careful to diagnose iodoform intoxication. He had not observed any ill effect from iodoform.

DR. SCHAUTA had introduced as much as six grams of iodoform into the uterus in a case of puerperal endometritis, without any ill effect; he also referred to Ehrendorfer (*Arch. f. Gynaec.*, Bd. 22), who had used still larger amounts of iodoform without unfavorable results. On the other hand it must be admitted that our best antiseptics are violent poisons. Possibly Elischer's cases were iodoform intoxications, perhaps not; possibly, too, the point of application might not be indifferent.

DR. HIRSCHBERG had succeeded in completely curing a case of peritonitis with tubercular nodules by corrosive sublimate. Hence iodoform is not the sole specific for tubercular peritonitis; in old people and fat persons it should either not be used at all or at most in small quantities.

DR. MEINERT agreed with the last speaker that it is not iodoform alone which will cure tubercular peritonitis; a like result can be obtained by other measures (tapping, incision).

DR. GRAEFE confirmed these statements by a case observed by himself. He had also seen two cases of tubercular peritonitis completely cured, though the patients died of phthisis. This form of peritonitis is not always of a tubercular character; sometimes nothing but granulation tissue can be found.

DR. KALTENBACH had witnessed three cases of iodoform intoxication. The most prominent of the symptoms was great itching of the skin. Iodine was regularly demonstrated in the urine. When the pedicle is treated extra-peritoneally, he uses, instead of iodoform, tannin with salicylic acid.

DR. BATTLEHNER had also seen a case of peritonitis with ascites and tubercles which recovered after tapping. He agreed with Graefe that the diagnosis could be formed only when the tubercle bacilli could be demonstrated. Otherwise he was of opinion that many a case of psychical disturbance is erroneously taken for iodoform poisoning. The speaker had had such a case.

DR. OLSHAUSEN had observed quite a number of cases of tubercular peritonitis. Tuberculosis of the peritoneum may be recovered from in many cases, or remain stationary for years; it may get well without iodoform.

DR. PROCHOWNICK had found in three cases extensive adhesions of the peritoneum to the pelvic wall which made the ascites clear to him.

DR. CHROBAK believed it had not been shown that Elischer's were cases of iodoform intoxication; he had also seen a case recover which might have been taken for iodoform poisoning. He could not recommend the abstraction of fluid which Elischer proposed. He had used iodoform in many cases, though not in excessive quantities, and had never seen any ill effects.

DR. V. SÆXINGER.—In a case of tubercular peritonitis with enormous ascites and countless tubercles, there had been no recurrence of the ascites after laparotomy and evacuation of the fluid; the operation was performed six months ago.

DR. FROMMEL disclaimed that he had recommended iodoform as a specific for these cases.

DR. ELISCHER said that in his case no septicemia was present (no fever, no swelling, etc.). To Schauta he replied that when iodoform bougies are introduced into the uterus, the quantity of iodoform administered cannot be definitely known, as a portion of the drug might drain away. He laid great weight on "dry diet."

DR. SCHATZ read a paper on

ULCERS OF THE BLADDER.

He had observed the following two cases. A woman, otherwise healthy, had very great dysuria during typhoid fever. Treatment by irrigation had no effect. After several weeks the bladder was palpated, and found velvety to the touch, except at the anterior wall, a short distance above the symphysis, where there was a spot, the size of a dollar, which differed from the remainder of the internal surface in seeming to be mounted on a firm wall. It was not depressed, but had an even surface which felt like dampened

glass. There was no swelling around it. There was some strangury; the urine contained blood and pus. Further treatment at the time proved ineffectual. Six months later, Dr. S. saw a similar case in a young woman. There was vesical tenesmus, together with the discharge of some drops of blood. On palpating the bladder, the conditions found were as in the former case, only the ulcer was seated more postero-superiorly, and was about five centimetres in diameter. Examination of the pus gave no information. The patient returned after several months. Irrigations produced no improvement. Meantime the ulcer had enlarged to thrice its former dimensions, its lower limit reaching almost to the trigonum of Lieutard. The question was, whether improvement could be obtained by a partial resection of the bladder. This operation was performed, similar to the high lithotomy. The incision was made immediately above the symphysis, and the bladder lifted up. After being opened, the ulcer became visible; the rest of the bladder was intact. The ulcer was seized from behind with a clamp-forceps; the mass within the grasp of the instrument was very thick, but it was ligated and cut off. The threads were allowed to remain, so as to let them hang out of a fistula. The vesical incision was stitched with catgut, the lower portion of the vesical and abdominal wounds left open. Through this fistula were passed the threads and a drainage tube extending through the urethra. By about the twentieth day the suture was so loose that it could be easily pulled out of the fistula; the same remark applies to the drainage tube. After three hours, the patient evacuated one-quarter litre of urine without any difficulty. The excised piece looked like a granulating ulcer; it contained tubercles, but no bacilli. After several months, during which she had no purulent urine, the patient returned with the remark that her urine was again turbid. It was always acid. The case, then, was a tubercular ulcer of the bladder. The reader had formerly seen two patients who had had vesical disturbances for a long time, and whose bladder was firmly contracted; internal palpation showed results which he would be most strongly inclined to term tuberculosis. The duration of tuberculosis of the urinary organs may occasionally be very protracted. The operation, therefore, was justified. The other question, whether it was correct to open the bladder from above, was answered by the reader to the effect that he did not think it good practice to enter from the vagina. The operation from above is not so grave; it resembles lithotomy. He had closed the bladder only to the point where the ligatures extended outwards, so that he could, if necessary, draw it upward, and in order to prevent the formation of a long fistula. He had found no similar case in literature.

DR. HIRSCHBERG said he would not readily decide upon a similar operation in the case of ulcers. The female urethra could be easily dilated. The high lithotomy is not quite simple and harm-

less; fatal cases have occurred and, besides, urinary fistulæ form which do not close. Since the urine was acid, the case could not have been one of vesical catarrh. In non-tubercular ulcers, simpler measures should be employed; *e. g.*, making an artificial vesico-vaginal fistula. He thought the excision of a piece the size of the palm of the hand is more dangerous than the high lithotomy operation.

DR. VEIT (Berlin) did not think the high lithotomy operation on the female bladder particularly grave; he had seen it performed three times. Nor were there any difficulties in closing the wound subsequently; he thought such ulcers could be cured by permanent drainage or the formation of an artificial fistula. At all events, something had to be done; high lithotomy would be appropriate if neither drainage nor artificial fistula proved effective.

DR. HIRSCHBERG could see no difference between the male and female bladder with reference to the high lithotomy operation, and still maintained that it was not free from danger. Besides, tuberculosis of the urinary organs extends from above downwards; for this reason, too, he would abstain from operating. He had twice curetted the bladder without ill effect.

DR. SCHATZ did not think curetting practicable, owing to the large, broad surface. A permanent cure could, of course, not be expected in his case. The corresponding kidney was certainly diseased. As regards the high lithotomy operation, there was indeed a difference between the male and female bladder. In the female, the bladder is a large sac from which a piece the size of the palm of the hand might well be excised.

DR. ZEISS (Erfurt) read a paper on

THE ALEXANDER-ADAMS OPERATION.

The operation has attracted little attention in Germany, although it should not be lightly rejected. The reader first discussed the objections raised against the operation. It has been said that in retroflexion of the uterus the relaxation of the retro-uterine ligaments had not been considered. But it is necessary, after the operation, if it is to be effective, to insert a pessary and fasten the cervix behind, thus allowing the ligaments to recuperate. It has also been objected that one anomalous position is simply substituted for another; but it will be possible to avoid this extreme through the dexterity acquired by practice. Fritsch maintained that treatment by pessaries could take the place of the operation. The reader does not believe that pessaries would always have this certain effect. He then spoke of his operations, one of which was a case of subinvolution after abortion in the fourth month; although a small hernia had formed on one side, the uterus was normal in position, with a small amount of descensus. The second patient had discarded the pessary for the last two months; the position of the uterus is normal. The reader thought that his results entitled him to champion the cause of the operation. With reference to the indications, he stated that we possess already some very good methods of operation for prolapsus.

DR. SLAVIANSKY (St. Petersburg) reported concerning his own operations. In the third case, he did not find the round ligaments; in the fourth, he found them with difficulty; in the fifth, he found them readily. Doléris failed to find them in the dead subject. Altogether, among nine cases, the speaker failed to find the round ligaments in two cases; in four or five cases he had great difficulty in finding them. But where the ligaments are present, the operation is easily performed; the ligament can be drawn out to a length of eleven centimetres without encountering the peritoneal envelope. He had not yet performed the operation for prolapsus. Where he failed to find the ligaments, he inserted a pessary and kept the patients in bed for a month. In these cases the retroflexion persisted. The speaker summarized his opinion in this, that the operation is appropriate for certain cases of retroflexion with free mobility of the uterus, if it can be done; but thus far it is impossible to know the latter beforehand.

DR. KUESTNER had done the operation twice, and in one case had reinserted the pessary after the operation. While the patient was still in bed, the uterus again became retroflexed; he dispenses with the intrauterine stem pessary. He holds that in those cases where the pessary is useless the operation likewise fails. Only in those cases in which the uterus could be easily replaced, and the patient is to be spared the wearing of a pessary, would the operation be appropriate. He had had no difficulty in finding the round ligaments, perhaps because he makes his first incision in a different way. The course was always apyrexial.

DR. SLAVIANSKY added that the operation often runs smoothly in a few cases, then difficulties are encountered. When the ligaments have been drawn out for six centimetres, we are still uncertain whether we really have hold of them, as the uterus fails to move; it does so only when ten centimetres have been pulled out. Time will have to elucidate the subject.

DR. MUNDÉ (New York) had found the ligaments readily in his first case; then he failed in several cases. His assistants likewise did not find them from without, even in the dead subject. In those cases in which the drawing out of the ligaments had succeeded, the result had been good. The operation is indicated when pessaries no longer suffice. He had operated in eight cases.

DR. KUESTNER detaches the fat from the round ligament by stirring with a sound, and he believes that he has succeeded in finding it.

DR. WINCKEL enumerated the following objections to the operation:

1. Persons who have undergone the operation must continue to wear their pessary.
2. One of the patients has suffered a hernia from it.
3. It is impossible to calculate how soon the stretching of the ligaments will recur. The operation is still too young, and in the case of prolapsus, starting from false premises, has been again abandoned. On the strength of the German operations we are not justified to speak of successes; the subject is still too recent.

DR. SKUTSCH (Jena) read a paper on

MEASUREMENT OF THE PELVIS—A METHOD OF MEASURING ALL THE PELVIC DIAMETERS.

Despite the many experiments made in this direction, we are generally unable to measure the pelvis with that exactness and fa-

cility which are desirable in view of the importance of the subject

This matter has recently gained in prominence by the improvements made in the Cesarean operation which permit its performance where the indications are relative. The effort to improve the reliability of our diagnosis as to the narrowing of the pelvis is therefore particularly justifiable at the present time.

The older methods of measurement confined themselves almost exclusively to the determination of the conjugate diameters, but the knowledge of the other, especially the transverse diameters, is equally important. Our requirements can be satisfied only by a knowledge of the narrowness or width of the entire pelvic canal.

The author then entered more fully into Kuestner's method (*Arch. f. Gyn.*, XVII.) of measuring all the dimensions of the lesser pelvis in the living woman, and Freund's method of determining the transverse diameter of the pelvic inlet, by means of a flexible leaden rod; these contained the fundamental ideas of his own method. He started with the following reflection: Generally it is not feasible to make the two terminal points of the internal pelvic diameters simultaneously accessible to measurement by means of compasses, because the vagina usually cannot bear the necessary tension. But if we succeed in determining the position in the space of each of the terminal points to a fixed third point, one after another, and then in representing outside the pelvis the relation of the terminal points to the same fixed point, we have the means of direct measurement. This can be done by the following apparatus:

To the abdomen of the woman is fastened, by a belt and thigh straps, a concave board resting firmly on the symphysis and the anterior superior spines of the ilei. To this board is then applied the steel slide, the main portion of the apparatus, which has two sleigh-like processes that can be covered by movable slides. Next is inserted into one of the sleighs a rod of pure lead nickel-plated, by means of a steel rail situated at one extremity, and accurately fitting into the sleigh; then the slide moved over it locks it firmly. The other, knob-shaped end of the leaden rod is introduced into the vagina, under the direction of the index and middle fingers (the index finger being in a thimble open in front) and bent to one of the terminal points of the diameter to be measured (*e. g.*, the transverse diameter of the pelvic inlet); then the other, free hand loosens the slide, the rod is liberated, is carefully withdrawn so as not to alter its form, and laid aside. A like leaden rod is then inserted into the other sleigh, bent to the other terminal point of the diameter in the same manner and withdrawn. The main slide is now removed from the pelvic board, and both rods reinserted into the sleighs which they respectively occupied before. The distance of the end points can now be measured directly with a rule.

As in every organic measurement, the values obtained are, of

course, not mathematically exact; but the sources of error are as small as possible. The elasticity of the rods is insignificant. Of particular importance is the careful handling of the rods lest they lose their form; the fingers must exert appropriate counter-pressure while the distended soft parts are trying to regain their state of rest. If necessary, the tension of the vulva can be eliminated

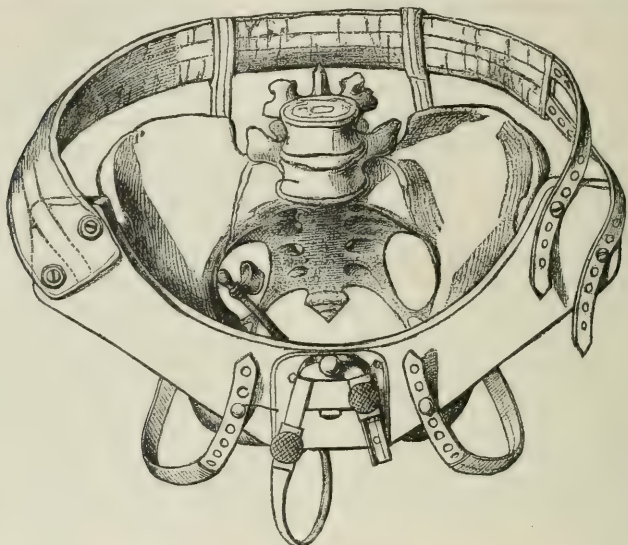


FIG. 1.

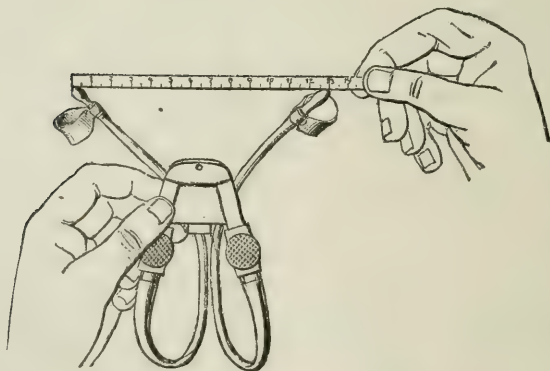


FIG. 2.

by short lateral levers and a grooved speculum. It is advisable, lest the rods interfere with one another when inserted into the main slide, to guide one as far as possible into the right, the other as far as possible into the left half of the pelvis. Measurements made of pregnant and non-pregnant women showed that the re-

sults are satisfactory if correctly executed. The apparatus is manufactured by Kirsche, instrument maker, Jena.

DR. KUESTNER exhibited a new pelvimeter, having balls at the ends, with which the measurement of the transverse diameters can be made with ease. If the vagina is distensible enough to allow the pelvic end points to be touched, it must be possible to reach the terminal points of the transverse diameter also by means of a pair of compasses; in some cases, however, the vagina cannot be stretched to that extent.

DR. FIRNIG (Cologne) exhibited

A SPONDYL-OLISTHETIC PELVIS.

Anna Sophia F., æt. 25, from Apweiler, Co. of Geylenkirchen, District of Aix-la-Chapelle, was received December 25th, 1885. Parents dead; father of an accident, mother of nervous fever. Brothers and sisters, of whom she had several, all died young. She claims to have always been healthy, with the exception of an attack of nervous fever, two years ago. Had learned to walk at the age of one year—a statement subsequently confirmed by her relatives. Menstruation commenced in fourteenth year, always regular, lasting four or five days, not associated with much pain. Early in April, 1885, last period; a few days later, first coitus which led at once to conception. Nausea, vomiting, salivation, heart-burn, headache, toothache in the first month. Quickening first felt about the middle of June, that is, about the end of the fifth or beginning of the sixth month. Movements not specially located. In the last two months dyspnea, but not very great. On Jan. 11th, the patient was presented before the Medical Society of Cologne, with the positive diagnosis of spondylolisthetic pelvis.

The patient is five feet tall, not very strongly built, but healthy. Features regular, almost handsome. The skeleton shows absolutely no rachitic changes. Chloasma gravidarum on the forehead. Breasts small, rather pendulous, moderately tense. Glandular tissue ample, areola of medium size, plentifully set with sebaceous glands. Nipples good. Milk exudes. Thoracic organs healthy. Abdomen very short and pendulous, covering the vulvar fissure. When the abdomen is lifted, the greater part of the vulvar fissure is visible in the erect position. Distance between the last rib and the crest of the ilium only the width of two fingers. The spinal column runs straight from above downward, having the normal posterior and anterior curvatures in the regions of the neck and thorax. The lumbar portion is very short and strongly curved inwards. On external inspection, the whole pelvis shows no abnormalities except a slight inclination; the sacrum, otherwise normal in form, projects at its upper end backwards at a right angle to the lumbar spine. This step-like protrusion is from two to two and a half centimetres broad, and two fingers can be readily placed upon it. When the patient walks about dressed, every one would think she wears one of those fashionable and

nowadays indispensable bustles—which is not the case. The external pelvic measurements are the following: Cr., 29; Sp., 25; Tr. $31\frac{1}{2}$; B., taken from the projecting upper posterior point of the upper lumbar vertebra, 19 cm.; if one knob is pressed strongly to the side of the right angle formed by the step-like projection with the lumbar spine, it measures 16 cm.

On internal examination, made under chloroform, which permitted a very thorough mapping out of the pelvic contents per rectum, the coccyx is first encountered, extending backward from the sacrum at nearly a right angle. The sacrum extends upward and backward for a short distance, at most the length of the lowest three sacral vertebræ, then we encounter an obtuse angle whose anterior side projects strongly forwards into the pelvis. Comparing the height of the internal angle with that of the step-like projection on the outside, the patient being in the lateral position, the latter appears to be about three fingers' breadth higher up. The internal protrusion likewise extends about three fingers' breadth inwards, then in a curve further upwards. This internal spinal projection is quite free on the sides, the lateral portions of the sacrum, as well as the venters of the ilium are farther back, so that the curved line in its course shows no perceptible peculiarities. To the left above, by the side of the projecting spinal column, the bifurcation of the aorta is distinctly palpable, and farther down the beginning of the femoral and iliac arteries. The obstetrical diagonal conjugate measures $7\frac{1}{2}$ cm.

Otherwise the examination shows a second vertex position, child living. Head above the inlet. Under these circumstances, (ninth month, conjunctiva vera of 5 cm.), nothing remained but the Cesarean section. On Monday, January 11th, the patient was presented to the medical society. During the night from Tuesday to Wednesday pains set in and rapidly increased in intensity. The os, however, dilated but slightly. With every pain the head was firmly pressed against the pubic symphysis and vertebral column, so that rupture of the uterus threatened if there was much delay. The next morning the Cesarean operation was performed. Antiseptic precautions had been previously resorted to: several vaginal irrigations with five-per-cent carbolic solution during the night, full bath of the patient, baths of the operator and assistants, etc. The incision was made in the linea alba and extended four centimetres above the umbilicus. The uterus, which had rotated around its longitudinal axis from right to left, was brought outside the wound whose margins were held together with thymol gauze behind the uterus, so that no intestines protruded. Then the uterus was divided in the median line longitudinally as low down as possible; the bladder was adherent below. The incision struck the placenta which was seated at the anterior upper uterine wall. The child, a boy, was extracted by the feet. He seemed dead, but was revived by Schultze's method, and is still living; weight 3,380

gm. Cranial measurements, 12, $8\frac{1}{2}$, $9\frac{1}{2}$, 10, $13\frac{1}{2}$ cm. Uterus relaxed; great hemorrhage; chloride of iron; induced current. Silver sutures. Tent-shaped encapsulation by uniting the round ligaments above, and below with the parietal peritoneum of the abdominal walls. Abdominal sutures. Drainage through the abdominal walls, uterus, and external os into the vagina. External os again quite closely contracted. Immediate nutrient enema.

Patient reacted very rapidly; pulse at first frequent, to 116, from third day on between 90 and 100. Temperature normal to the ninth day, when it rose to 104° F. Sudden dyspnea. Pulmonary râles. Diagnosis: embolic infarction of the right lung. Death on twelfth day.

The autopsy fully confirmed the diagnosis. No trace of peritonitis. Encapsulation perfect.

Bony pelvis.—If we imagine the lumbar spine removed, the pelvis is normal, aside from the slight inclination and the resulting narrowing of the transverse diameter of the outlet, $8\frac{1}{2}$ cm. The first sacral vertebra and one-half of the second are on their anterior surface covered by the body of the last lumbar vertebra; osseous ankylosis is complete. Posteriorly the spinous process of the last lumbar vertebra is in its normal position, below it the hiatus of the superior sacral canal is wide open. The ring of the vertebral canal of the last lumbar vertebra is bent forwards in a curve over the upper surface of the sacrum. At the side we see the lateral process of the last lumbar and first sacral vertebra merely indicated and completely scraped off. Osseous union is complete. The spinous process of the fourth lumbar vertebra is farther forwards, so that we can look from above into the canal of the last lumbar vertebra. The lower lateral process of the fourth lumbar vertebra is likewise ankylosed with the upper lateral process of the fifth lumbar vertebra.

The lumbar spine is strongly bent forwards. A line uniting the two spines of the ilia touches the upper part of the second lumbar vertebra. The obstetrical promontory is between the second and third vertebrae.

The paper will soon be published with illustrations.

DR. BUMM (Wurzburg) exhibited an apparatus, consisting of a speculum and an incandescent electric lamp, by means of which a portion of the abdominal contents can be illuminated from the vagina or the rectum. He illustrated its workings on a patient.

(To be concluded.)

REVIEWS.

THE INTERNATIONAL ENCYCLOPEDIA OF SURGERY. A Systematic Treatise on the Theory and Practice of Surgery by Authors of Various Nations. Edited by JOHN ASHHURST, JR., M.D., Professor of Clinical Surgery in the University of Pennsylvania. Illustrated with Chromo-lithographs and Woodcuts. In six Volumes. Vol. VI., pp. 1,202. Wm. Wood & Co., New York, 1886.

Dr. Ashhurst is to be most heartily congratulated on the completion of this magnificent work to which he has devoted the time and energies of six long years. To him and to those who have labored with him are due the thanks, the grateful thanks, of the whole profession; for wherever the English language is read or spoken, there will these volumes stand as a most high and trustworthy authority.

Of the many valuable articles which are contained in this, the sixth and last volume of the encyclopedia, we can only consider the three devoted to the surgery of the female sexual apparatus. Of these, the first is contributed by Prof. Theophilus Parvin, of Philadelphia, who discusses "Injuries and Diseases of the Female Genitals;" the second by Dr. Robert P. Harris, of the same city, who writes of the "Cesarean Section and Allied Operations;" and the third by Dr. Charles Carroll Lee, of New York, who treats of "Ovarian and Uterine Tumors." These we will speak of successively.

Injuries and Diseases of the Female Genitals, pp. 96.

While this chapter throughout shows a wide knowledge of literature and much erudition on the part of its author, in many places it seems superficial, Dr. Parvin, in his effort to be concise, telling what may be done, but sometimes neglecting the equally important how to do it.

Modes of gynecic exploration are concisely discussed, eleven pages being devoted to this important preliminary, the subject being, on the whole, satisfactorily treated, though the author does not lay stress enough on the contra-indications to the use of the sound, nor state what most gynecologists insist upon, that the sound should never, or but most rarely, be passed before the condition and position of the uterus have been ascertained by careful bimanual examination. The Sims' speculum is rightly given a place of honor, though the description of the methods of its use is inadequate. The bivalve speculum is not condemned, Neugebauer's being especially recommended. Any form of bivalve speculum is, however, but little better than the tubular, which, as Dr. Parvin very truly says, "often conceals more than it reveals." The reader is left in doubt as to which are the best and safest means of dilating the uterine cavity for diagnostic purposes, the various measures used, and some of the indications and contra-indications being given, but not definitely. Examination by the curette is disposed of in three lines, as follows: "The CURETTE, or Emmet's *curette-forceps*, may be used to remove fragments of an intrauterine growth, and its general appearance, or a microscopic examination will determine its true nature." When and

how should it be used? Should it be dull or sharp? What are the advantages, the dangers, or the contra-indications of its use? The author undoubtedly knows, but he has forgotten to tell his readers.

The article on Tracheloplasty (Emmet's operation) shows the same fault that we have already pointed out; it is not practical nor complete enough. Of the indications for the operation, the more common are entirely overlooked, the reflex symptoms being the only ones noticed. The operation itself is fairly well described, though here again many quite important little details are omitted. We are surprised to see that the author places the patient by preference in the dorsal position, easily disposing of the infinitely more convenient and more widely used Sims' position by admitting that "some authors prefer the lateral position."

The surgical treatment of perineal tears is next taken up, and laid down again, open to the same criticism as the description of cervical tears. Foreign bodies in the vagina, atresia, double vagina, hydrocele muliebris, fissures, noma, lupus, and elephantiasis are described successively, the methods of Schroeder and Mundé for removing the diseased mass being the ones recommended for the latter.

Tumors of the vulva and vagina, benign and malignant, are well and sufficiently described. Uro- and recto-genital fistulæ are well defined, the pages devoted to vesico-vaginal fistulæ being exceedingly clear, the operative method most particularly described being the simple and efficient one devised and used by Sims and Emmet.

In speaking of erosion of the cervix, in addition to local and systemic measures, stress is very properly laid upon the removal of the condition of which the erosion is, strictly speaking, merely a symptom, that is the presence of some irritating discharge from the cervical canal. This endocervicitis, or endometritis, when persistent, is much benefited by intrauterine applications of iodine or carbolic acid, one or both; for while "some reject all applications to the cavity of the neck or body of the womb," our author, with a wise conservatism, thinks this is "too great a reaction from the excess and violence of the local treatment of the uterus which was in vogue a few years ago."

The next important subjects taken up are malignant disease of the cervix, amputation of the cervix, vaginal extirpation of the uterus, and elytrorrhaphy. The first of these divisions is well described; in the second, we are sorry to see that the author makes no mention of the supravaginal method of amputation of the cancerous cervix, an operation which has given good results both here and abroad; vaginal extirpation is briefly disposed of in half a page, Schroeder's terse description of the procedure being quoted, and no mention being made of the high mortality following the operation, though it is said that, if Freund's method be adopted, the patient has very few chances of recovery.

Three methods of performing anterior colporrhaphy are given: Emmet's, Hegar's, and Schroeder's. While all of these are good and efficient measures, they are all more complicated, and require a longer time, more sutures, and more skill than the more simple, though equally efficient, method of Stoltz, where the denudation is rarely circular, and only one suture necessary, this being intro-

duced like the drawing-string of the mouth of a bag, and giving the method its name of the "bag-mouth operation."

Schroeder's and Emmet's methods for posterior, and Le Fort's for median, with Simon's and Hegar's for colpo-perineorrhaphy, are then described, while the consideration of vaginismus, coccygodynia, sterility, and nymphomania close the chapter.

The Cesarean Section and its Substitutes; Laparotomy for Ruptured Uterus and for Extrauterine Fecundation, pp. 29.

Considering Dr. Harris' reputation as a most painstaking and accurate statistician, we would expect him to give us an orderly and admirably complete exposition of the subject, one in which there would be no faults of omission, and which could be relied upon in every particular. When we read the chapter, our expectations are realized, for in its pages there is hardly a point which could be criticised adversely.

At first, a sketch of the history of the "Cesar cut" leads us back into the misty past, the earliest operation upon the living woman being claimed by the year 1400, though the first case the record of which is undoubted was that of Trautmann in 1610. Coming back to our own time and to more important and practical subjects, the author discusses the indications, and, after speaking of pelvic deformities, tumors, exostoses, epithelioma of the cervix cancer, and atresia of the vagina, transverse impaction of the fetus, etc., he says: "In our own country, past experience with the Cesarean section leads us to believe that the operation is less dangerous than craniotomy in pelvis having a conjugate diameter of two inches or less. Having saved seventy-five per cent of the patients operated upon *in good season*, we are not inclined to regard craniotomy as the preferable expedient where the conjugate measures one and one-half to one and three-quarter inches. And, besides, we hope for better results in the general average of cases, from antiseptic surgery and from improved methods of suturing the uterus, whenever the whole medical profession in the United States shall have come to realize the importance of greater carefulness in the time and method of operating." The general mortality in the United States is given at sixty per cent, and in Great Britain as eighty-one per cent, this including operations on moribund subjects. A note that throughout these pages rings with clear and certain tone, warns us that to escape this mortality we must *avoid delay*. "No one cause is as potent a factor in determining a fatal issue in any case as delay in operating." Next to promptness in operating, the author believes the most important steps to be suturing the uterus and cleansing the abdominal cavity from blood and amniotic fluid—measures, the carrying out of which do not require any additional assistants. The details of the modern antiseptic operation are succinctly described. The uterine wound should be closed with deep and superficial interrupted sutures of carbolyzed silk (or silver wire). "The deep sutures should pass down nearly to the uterine lining, and the superficial ones should be inserted between them so as to turn in the peritoneum, and bring its serous surfaces in apposition, to favor rapid union. From ten to twelve sutures of each form will be required, as the strain on each individual stitch will thus be less, and the welt will be made impassable to any uterine discharge."

After describing the modifications of Cohnstein, Frank, Kehrer,

and Saenger, the importance of early interference is again urged. "It will be of little avail to introduce improved systems of operating unless there is also an improvement in selecting a proper time for the operation; if this be made elective, and not the last resort, there will be a diminished fatality in the future."

The Porro modification, which in its main features had existed as a theoretical improvement for one hundred and eight years before it was tried upon the human female, is next considered. Up to March 20th, 1885, there had been 109 operations by this method, saving 46 women and 85 children, and by the Porro-Müller method 42, saving 21 women and 31 children. Veit's modification of the Porro method (ligating and dropping in the stump, treating it like the amputated cervix in hysterectomy in non-gravid cases), though good in theory, has proved very fatal in practice, the mortality being over 71 per cent, while the total mortality from the Porro and Müller operation is 56 per cent, and in favorable cases only 41 per cent, some Italian operators having even saved over 86 per cent of the mothers and all the children (11 women out of 14). It is noted that the Porro mutilation has a decidedly beneficent effect upon the progress of the disease in those afflicted with malacosteon.

Laparo-elytrotomy in its present form, as perfected by Thomas in 1870, promises to become the operation of election in the near future, possessing as it does the advantage of being extra-peritoneal, requiring no uterine wound and being but slightly more difficult of execution than the older methods. The mortality of the operation is not high, and will undoubtedly be much more lessened by increasing experience and knowledge on the part of the operators. Dr. Skene saved three women and their children by his four operations. Of the 12 cases which Dr. Harris has collected, "3 may be regarded as having been hopeless, and of the 9 others, 5 were quite unfavorable, notwithstanding which the 9 operations saved 6 women and 5 children." Our brethren on the other side of the Atlantic are as slow in recognizing the benefits and advantages of this operation as they are in admitting the value of electricity in the treatment of ectopic gestation, or of any procedure which originates in this Western continent, for of the twelve operations noted, only two (Hime and Edis, England) were done outside of America.

The author holds to the advanced views of modern obstetric surgery when he advocates abdominal section as the elective mode of delivery after uterine rupture, saying: "It should be laid down, then, as a rule of obstetric practice, that in all cases of rupture of the uterus with escape of fluid into the abdominal cavity, where the woman has reacted sufficiently from the shock of the accident to warrant it, the abdomen should be opened for the purposes of antiseptic cleansing, and of suturing the uterine rent; and that this should be done, whether the fetus is still in utero and can be delivered *per vias naturales*, or has entirely or partly passed into the peritoneal cavity, and must of necessity be removed by laparotomy. In no case should the fetus be drawn back into the uterus and through the vagina, and the woman be then left to nature, in the hope that she may possibly escape death because a few have done so."

This chapter, which must be read to be appreciated, concludes with the consideration of puerperal laparo-cystotomy, laparo-cystectomy, and elytrotomy in ectopic pregnancies, in which the

great uncertainty of all operations upon extrauterine cysts is well shown.

Ovarian and Uterine Tumors, pp. 53.

Beginning with ovarian tumors, the author divides them into two groups: the cystic and the solid. The first and most important group includes ovarian cysts, dermoid cysts, cysto-fibromata, cysto-sarcomata, and cysto carcinomata; the latter true fibromata, sarcomata, papillomata, and carcinomata.

Of the origin and cause of ovarian cystomata we know practically nothing—is there no one who can solve the riddle?—and, dismissing these subjects in a few words, the author passes to the consideration of the morbid anatomy, the course and natural history, the symptoms, diagnosis, and prognosis. The rational and physical signs, the methods of physical exploration, and the methods of differential diagnosis are carefully and thoroughly given, Dr. Lee considering that “at the present day the diagnosis of ovarian cystomata is as accurate as that of labor pneumonia; and errors which, a generation ago, were of daily occurrence are, in the hands of an expert, now inexcusable.”

Turning now to uterine fibroids, and passing over several well-written pages concerning their symptoms and diagnosis, we come to the important subject of treatment. This may be either dietetic, medical, or surgical. Cutter has stated that a strict regimen, such as that used in diabetes, would markedly diminish the growth of fibromata, and Dr. Lee has found this to be true in certain cases, though he advises that it should not be tried except in connection with the use of ergot. The drug should be injected deeply into the gluteal region, the author stating that “when given otherwise than hypodermically ergot is indecisive, and usually disappoints our expectations.” Here is a point where opinions differ. At the meeting of the Chicago Gynecological Society of May 28th, 1886 (see page 996), Dr. Parkes reports most excellent results from the use of ergot by mouth, and at the N. Y. Polyclinic in Dr. Mundé's service, beneficial results have resulted in almost every case where the remedy has been used faithfully and *persistently*. Many more instances like these might be cited, but enough are here given to show that, when it is impracticable to use ergot hypodermically, we may still expect to benefit our patients, and perhaps even cure them by giving ergot by mouth.

Electrolysis is uncertain in its effects, and in large tumors may produce dangerous or even fatal sloughing. It would seem to be especially indicated where the fibroid is small, and can be readily reached through the anterior or posterior vaginal cul-de-sac.

Of surgical means, not including those necessitating laparotomy, *écrasement*, preferably with the galvano-cautery wire, is applicable to the removal of polypi and pedunculated growths, while enucleation is adapted to the removal of interstitial fibroids and of such submucous growths as still retain a sessile base. It is very properly insisted that, as enucleation is a very dangerous procedure, it should not be attempted until all palliative means have been tried.

Passing by the pages devoted to the consideration of uterine sarcomata and carcinomata, we come to “affections likely to be mistaken for ovarian or uterine tumors,” these including the symptoms, differential diagnosis and treatment of ligamentous cysts, hemocele, and ileo-pelvic abscess, these conditions being

sufficiently well described. The concluding pages of the chapter are occupied by descriptions of the operative methods for the removal of ovarian and uterine tumors. The description of ovariectomy is very good, and in accordance with the most advanced views.

Early interference is advocated, for, since antiseptic measures and increased knowledge and skill in the technique of the procedure have so wonderfully diminished the mortality, the old rule to wait until the general health had begun markedly to fail should be set aside, and we should "operate as soon as the cyst has distinctly risen from the pelvis into the abdominal cavity." "At this time the intestines that would otherwise underlie the abdominal incision are displaced by the tumor, the peritoneum is somewhat stretched and rendered insensitive, and we take advantage of the retained strength of the patient, which often turns the scale in her favor after the shock of a severe operation. When once the diagnosis is certain, there can be no gain in waiting longer in a disease that is inevitably fatal."

This entire chapter is eminently practical and complete—though in some few points a little more amplification would be desirable—and does its full share in maintaining the high average value of the whole work.

BROOKS H. WELLS.

HANDBUCH DER FRAUENKRANKHEITEN.—A HANDBOOK OF THE DISEASES OF WOMEN. Edited by DR. TH. BILLROTH and DR. A. LUECKE. Second, entirely rewritten edition. Three volumes. Stuttgart: Ferdinand Enke, 1885, 1886.

Third Volume.—THE DISEASES OF THE FEMALE MAMMARY GLANDS. By PROF. BILLROTH.—THE DISEASES OF THE EXTERNAL GENITALS AND LACERATIONS OF THE PERINEUM. By PROF. ZWEIFEL.—THE DISEASES OF THE FEMALE URETHRA AND BLADDER. By PROF. WINCKEL.—THE DISEASES OF THE VAGINA. By PROF. A. BREISKY.

The third volume of this handbook calls for less comment than the others; not that the contents are of less value, but because we find but few points for criticism. In general, the articles are very complete and carefully written, and the only fault we find is the one on which we have repeatedly had occasion to dwell—ignorance or wilful neglect of certain important and valuable additions to gynecic surgery by American surgeons.

Prof. Billroth describes the diseases of the female breast with the care which ever characterizes whatever he undertakes. In the treatment, and indeed in our knowledge of these disorders, but little advance has been made since the appearance of the first edition of this handbook, excepting in the one very important topic of the proper management of puerperal mastitis. Here we believe a marked advance has been made, certainly in this country, and yet we find that Billroth overlooks the matter entirely. In his condemnation of massage we fully concur, but there is a better plan of treatment for puerperal mastitis than suspension of the breast, and later, incision under antiseptic precautions. Firm, equable, and careful compression of the inflamed organ, conjoined with absolute rest, will render unnecessary resort to the knife.

Prof. Zweifel's contribution opens with a brief sketch of the development of the external genitals, and then the anomalies, tumors, and inflammatory diseases of the vulva, lacerations of the perineum, vaginismus, and coccygodynia, are in turn exhaustively considered. Under the subject of repair of the lacerated perineum.

the operations considered are those suggested by Bischoff, Freund, Martin, and Lawson Tait. The labors of Sims and Emmet in this direction are not deemed worthy of mention, absolutely no reference being made to the new operation devised by the latter gentleman, although Zweifel must have had access to a description of the operation before this edition of this handbook went to press. Why this silence we are at a loss to understand, for the new procedure is unquestionably in many instances of great value.

It is with pleasure that we find throughout Prof. Winckel's article no evidence of depreciation of American literature. He has evidently rewritten his contribution with the intention of making it as complete as a most exhaustive search through native and foreign works could alone enable him. The diseases of the female urethra and bladder are, in the generality of gynecological treatises, but cursorily referred to. Winckel, however, devotes two hundred and twenty-four pages to these subjects, and the reader will find herein described every anomaly and disease of both the urethra and the bladder, with sufficient reference to the best operative methods.

Similar praise is to be accorded to Prof. Breisky, for his able description of the diseases of the vagina. Its very completeness renders special comment unnecessary.

Having now passed successively in review the three volumes of this handbook, it remains only to congratulate the editors on the completion of what, as we stated at the outset, is practically a new work. As a reference handbook of the diseases of women it subserves its purpose admirably, except in so far as it must here and there be supplemented by recourse to other than the German literature. This fault, however, being one of omission, is readily corrected, and in other respects it is safe to say that this handbook stands without a rival in the sphere of diseases of which it treats.

EGBERT H. GRANDIN.

ABSTRACT.

1. Wasseige: Premature Labor, Induced after Recourse to Intrauterine Injections and Sponge tents, followed by Forceps and Podalic Version (Reprint from *Annales Société Médico-Chirurgicale de Liège*, 1885).—The case herein reported is instructive from the fact of the difficulty experienced in inducing labor at eighth month. It is W.'s usual practice to induce labor by means of injection of tepid water between membranes and uterus, followed by tents, and ordinarily this is effected in from twenty-four to thirty hours. In the reported case, three days were required. It is our belief that the use of the sponge tent for the purpose of inducing labor cannot be too strongly condemned, particularly when, as is W.'s custom, a second tent immediately follows the first. And this criticism applies equally to the prepared sponge tent. The reason is that the sponge tent is, above all dilating measures, most likely to be followed by sepsis, and its use is, therefore, especially reprehensible during the puerperal state. If a tent must be used, let it be the tupelo; although at the eighth month of gestation, except in the rare cases of marked cervical rigidity, the steel-branched dilator is the preferable, safest, and quickest of all dilating agents.

E. H. G.

THE AMERICAN JOURNAL OF OBSTETRICS

AND

DISEASES OF WOMEN AND CHILDREN.

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ORIGINAL COMMUNICATIONS.

THE IMPROVED CESAREAN SECTION.

BY

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German Hospital and Dispensary, etc.

GERMAN and French gynecological journals have of late contained reports of Cesarean sections performed "after Sanger's method," and given a complete list of all such operations, twenty-six in number.¹ As I am credited with the third one of these operations, it may not be impertinent to ask, *What is Sanger's method?*

To begin with, it is a little puzzling to find Sanger come in as No. 8 in the list of operations dubbed with his name. Who, for instance, is the father of ovariectomy, Ephraim McDowell or John Bell, the Scotch professor who taught that ovarian tumors might be taken away, or his American pupil who did it before any other? As a rule, methods are named after the operator who proves in practice that they are practicable, and not after a writer who suggests them.

But Sanger has not even proposed anything new that in the

¹ Archiv fur Gynakologie, 1886, vol. xxviii., No. 1, pp. 152 to 154. Annales de Gynecologie et d'Obstetricque, May to June, 1886, vol. xxv., pp. 424 to 429.

hands of others has proved valuable. In 1882 he published a book called "Der Kaiserschnitt bei Uterusfibromen, nebst vergleichender Methodik der Sectio Cæsarea und der Porro-Operation" (*On Cesarean Section in Cases of Uterine Fibroids, with a Comparison between the Methods of Cesarean Section and Porro's Operation*), which is a meritorious work in so far as the author protested against the indiscriminate use of Porro's operation, and collected in one place a vast material bearing on the different ways of performing Cesarean section, which, until then, was spread in many books and journal articles; but as to originality, its two hundred pages contain only one new idea, and that one has been found in practice to be an unnecessary complication of the operation, and has therefore again been given up. This original idea was to cut out a piece of the muscular wall on either side of the wound in the uterus, from within outward, separate the peritoneum from these two pieces, and fold the flaps in between the outer part of the edges before introducing the sutures. Leopold, who was the first who operated in accordance with Säger's advice, introduced already, in his first operation, a decided improvement, by dissecting off the peritoneal flaps first, and then cutting out the wedge-shaped pieces of muscular tissue from without inward (*Arch. f. Gyn.*, xix., p. 404). In his fourth operation he dispensed with the excision of muscular tissue, and dissected only the peritoneum off to the extent of one-half to three-fourths centimetre (*ibid.*, vol. xxxvi., p. 409). In his fifth (1885) and all the following, up to the tenth and last, he cast even this peritoneal dissection away (*ibid.*, vol. xxviii., p. 414). Thus nothing has been left of Säger's only original idea, and still the operation shall bear his name!

Since the publication of his book, Säger has written several long articles on Cesarean section in *Archiv für Gynäkologie*, one of which is of personal interest to me, since it contains some remarks on my paper on "The Improved Cesarean Section," published in this JOURNAL some years ago.¹ Says Säger:² "Garrigues, in a case in which he was afraid of (*sich scheute*) performing gastro-elytrotomy, because the patient was too weak to stand the suppuration connected with that operation, operated by means of the Cesarean section, and used a method of suturing which is

¹ April, May, June, 1883, vol. xvi.

² *Archiv für Gynäkologie*, 1885, vol. xxvi., pp. 169 and 170.

very like the one indicated by me (without excision). The uterine wound was closed with twenty-four sutures, one-half of which were passed through the whole thickness of the uterine wall, whereas the other half merely united the peritoneum. The patient died fifty hours after the operation. . . . At the autopsy, the line of incision was to a great extent found covered with a fine layer of new-formed tissue (?). *I doubt the correctness of Garrigues' assertion that he had reached his method of suturing independently of the new publications on Cesarean section* (G.'s Versicherung, dass er unabhängig von neueren Publicationen über Kaiserschnitt zu seinem Nahtverfahren gekommen sei, darf ich doch leise bezweifeln). . . . In his *résumé* of the *modus operandi* he has adopted all the chief points of my programme, even the subperitoneal excision, but without quoting names, so that nothing, except my protest, prevents our American *confrères* from calling it 'Garrigues' method.' "

In regard to Sängers courteous insinuation that I lied when I pretended to have operated as I did without knowing what had been written and done in the same line in Germany, I might refer him to the letter recently addressed by his distinguished countryman, Prof. Schroeder, to Mr. Lawson Tait.¹ But it may be proper to add a few words.

In my paper, I said: "At that time, I had *scarcely* read any of the new publications on Cesarean section to which I refer in this paper. *Now I would probably act differently in some particulars.* At the time, I was only guided by general surgical principles. From reading histories of autopsies after Cesarean sections in which no sutures had been inserted into the uterus, and the wound found gaping, and the peritoneal cavity filled with blood, I had concluded years ago that it was best to close the uterine wound. Since this organ is subjected to alternate contractions and relaxations, and contains a highly phlogogenic fluid, I placed the sutures nearer to one another than in the abdominal wall, and, *remembering that Spencer Wells had found the serous surfaces of the peritoneum united in patients who had died twenty-four hours after ovariectomies*, I tried to bring as large surfaces of this membrane as possible in contact by placing a separate peritoneal suture between two and two of the deep sutures, and drawing it well

¹ August number of this JOURNAL, p. 822.

together, while an assistant adjusted the edges with two tenacula."

I submit to everybody who has any tact in regard to style to decide whether that is the language of a man who, by lying, tries to steal some great discovery made by another, or if it is the straightforward, simple statement of one who feels a little ashamed that he has not followed his time in this particular line. Since the question has been raised, I will state more explicitly that when I performed my operation on the 6th of October, 1882, I had not seen Sanger's book nor read any abstract of it, nor read about Leopold's first operation (May 25th of the same year), the only one that I possibly could have any knowledge of at the time. My knowledge in regard to Cesarean section was limited, as I suppose was the case with most other physicians here, to the teachings of the text-books and some of Dr. R. P. Harris' articles. There was no time for studying books or papers before the operation, but in performing so serious an operation as Cesarean section, I, of course, bethought myself of things I knew which might have any bearing on the subject, and, as I presently shall show, it was so natural a thing, with the limited knowledge I possessed, to put in the sutures just as I did, that it never occurred to me that I had done anything remarkable, and I do not think so yet; but the same applies then to Sanger.

When the time is ripe for a certain idea, it is quite natural that it should occur about simultaneously to different men, of which we have a striking example in oöphorectomy, which was initiated, independently of one another, about the same time by Robert Battey, Hegar, and Lawson Tait. If I had known Sanger's excision, I would doubtless have tried it in my case, or else it is evident that I would have said that I had done better than he, by obtaining primary union without his excision. I trust that those who know me personally, and I think even many who have only noticed the character of my writings, will take my word for good.

Those who know New York will likewise easily understand how it happened that I had not become acquainted with these important developments in Cesarean section. They know how little time for reading the busy life in this large city leaves a physician who works in hospitals and dispensaries, and shall support a family with the proceeds

of his private practice. If, on the other hand, we glance at the "Index Medicus," with its eleven or twelve thousand medical authors a year, it becomes clear that to a considerable degree it is accidental what part of this enormous over-production of medical literature reaches the eye of a particular physician.

At that time, my attention was especially turned to the ravages of puerperal infection in the hospital intrusted to my care, studies which later have led to several publications; and it is evident that the more a man works at a particular subject, the less chance he will have of keeping pace with his science in other directions.

I wonder how many in this country, at that time, had read Sanger's book, nay, even heard of it. I know only so much, that when, after my operation, I became especially interested in Cesarean section, and began to read up on the subject for the preparation of my paper, Sanger's book was not found in any of the public libraries of the city, nor in any of the German book stores. I had to write to Germany in order to obtain a copy of it.

The query Sanger puts after my statement, that I found the line of incision to a great extent covered with new-formed tissue, seems again to imply a doubt in regard to the correctness of the statement made. The fact is, that there was a fine white film of what in former times used to be called plastic lymph, and what Virchow, a generation ago, proved to be cell proliferation from the neighboring tissue.

Sanger is right when he says that in my resum  of the *modus operandi*, I do not quote authors, but that is just the idea of a resum . It is written so that it may go over as it is into text-books, just as has been the case with my description of gastro-elytrotomy, and that the practitioner may find, in the most succinct form, what he needs for his work. This is what is expected of a resum . But at the time Sanger wrote his book he does not seem to have known the advantage of thus concentrating all the spread rays in one focus. I have in vain searched for any conclusion to his book, teaching how to perform Cesarean section. In the bulk of the article I quoted with the greatest accuracy my sources, and among others Sanger's book and papers.

Sanger has, in his own opinion, identified himself to such a degree with Cesarean section that nobody can say anything on

the subject without stealing from him or hurting his feelings. He goes so far as to tell me that I needed not to make any historical researches about Cesarean section, since he had already done so ; he resents that Leopold calls his own modifications of Säger's proposition important ; he is quite offended that Schroeder speaks of a Leopold-Säger manner of performing Cesarean section ;¹ he takes Porak to task for plagiarism, and almost blames our *Journal of Medical Sciences* for giving an abstract of Porak's article without mentioning Säger.

When he says that American physicians might as well call the improved Cesarean section mine as his, I quite agree with him, but I make haste to add that one thing would be as ridiculous as the other. The improved Cesarean section is a beautiful outgrowth of general surgical, and special gynecological development, an evolution due to the combined efforts of many men working independently in different countries, and it will not do for any single individual, may he be ever so faithful and enthusiastic a worker in his part of the field, to claim for his own glorification the results of investigations, thoughts, and experiments extending over the last twenty years, and over two hemispheres. This will become clear when we peruse the list of improvements made in this operation, and gratefully remember at least some of the numerous men to whose sagacity we are indebted for them.

The most important of all, without comparison, is the antiseptic treatment which we owe to the genius of Lister.

A very important discovery was made when it was found out that the death-rate diminished more and more the earlier the operation was performed, when strong and frequent labor pains were present, and before the tissues were bruised by compression between the advancing fetus and the resisting maternal parts. The early operation is an improvement in regard to which I believe we owe more to the indefatigable researches of Dr. Robert P. Harris, of Philadelphia, than to any other single individual.

A third improvement is to turn out the uterus from the body, either before incising it, or immediately after the delivery of the child. The proposition to "operate outside of the abdomen" was already made in 1870, by Guéniot, who passed a

¹ Arch. f. Gyn., xxvi., p. 167 and 203.

metallic wire through the upper part of the uterine wall, and directed an assistant to pull it forward during the extraction of the child.¹ In 1878, P. Müller, of Berne,² turned the uterus out before he opened it. Leopold, in his earlier operations, first delivered the child and then turned out the womb,³ but in his last three he has returned to Müller's method.

A fourth point, which has given much satisfaction in practice, is to insert a few (two to five) sutures at the upper end of the incision in the abdominal wall, so as to be able promptly to tie them when the uterus is turned out, thereby preventing the protrusion of the intestines, and forming a barrier to the entrance of blood and other foreign bodies into the peritoneal cavity. This was proposed by Frank,⁴ in 1881.

A fifth measure, calculated to still better protect the peritoneal cavity from the entrance of blood or other contamination during the manipulations of the uterus, is to push a piece of disinfected gutta-percha tissue behind the latter, after it has been turned out of the body. This practical little contrivance was used by Leopold⁵ in his first operation.

A sixth and very valuable improvement is the compression of the cervix by means of a rubber tube, in order to avoid or arrest hemorrhage from the wound or inner surface of the body of the womb. This is simply the application to Cesarean section of Esmarch's bloodless method of operating. This procedure was first advocated for Cesarean section, and tried on animals by Rein,⁶ of St. Petersburg, and first used on a woman by P. Müller. Leopold, to whom we always must come back, on account of his unique personal experience with the improved Cesarean operation, used in his first two cases only manual compression. From the third to the sixth case, he laid a rubber tube around the collum after delivering the child, and turning out the womb. But in his last three cases he turned out the unopened uterus, as P. Müller had done, laid a rubber tube of

¹ Guéniot: "De l'opération Césarienne et des modifications qu'elle comporte," in *Bulletin générale de thérapeutique*, lxxix., p. 126.

² P. Müller: "Der moderne Kaiserschnitt," Berlin, 1882, p. 5.

³ Leopold, in *Arch. für Gynäkologie*, 1885, vol. xxvi., p. 425; *ibid.* 1886, vol. xxviii., p. 105.

⁴ Frank in *Centralblatt f. Gynäk.*, vol. v., p. 602.

⁵ Leopold, in *Archiv für Gynäk.*, 1882, vol. xix., p. 403.

⁶ Rein, in *Annales de Gynécologie*, Feb., 1881; *Centralblatt f. Gynäk.*, vol. v., p. 324.

the thickness of the little finger loose around the cervix, and tightened it after delivery.

A seventh and very important step is to keep the uterus, and other parts that accidentally may be exposed, warm by the application of soft cloths wrung out in a weak, warm solution of bichloride of mercury. This is done to avoid shock, which Wegner experimentally found to be mostly due to refrigeration.¹

We come now to the consideration of the eighth improvement, namely, the uterine suture, the one upon which Säger, after having been obliged to give up his excision, would base his claim to be the inventor of the improved Cesarean section.

The use of some kind of uterine suture is very old, and has especially often been used in this country. Harris has from the beginning paid special attention to this point, and while in his first article² he was yet uncertain, because he feared peritonitis, he became more and more convinced of its value.

In 1878³ he said, "some of them would seem to have been saved, when it would appear almost impossible that any other plan [than uterine suture] could have answered." In 1881,⁴ he called the attention to two cases in which the wire sutures had been seen one *ante*, and the other *post mortem*, and the loops were all found incased in new tissue, the effect of an exudation produced under local peritonitis along the line of incision. Thus the advantage of uterine sutures in general was a settled point before Säger ever wrote a line on the subject. But even the particular kind of suture, which he claims as his, and which he has called the "symperitoneal" or "sero-serous suture" had been used before he praised it. We will not speak of more or less imperfect attempts or vague descriptions (Martin d'Avanzo, as early as 1862, Dusart, Cazin, Spiegelberg), but listen to S. S. Lungren, of Toledo, Ohio, who, in describing his two Cesarean sections performed on the same patient, says: "The peritoneal *surfaces* are retained in contact until union takes place, and all danger of escape of fluids averted. This method of introducing the sutures is the more necessary, for as soon as the incision is made, and the contents of the womb extracted, eversion of the

¹ Wegner: "Chirurgische Bemerkungen über die Peritonealhöhle," in Langenbeck's Archiv, 1876, vol. xx., No. 1, p. 51 et seq.

² Harris, in AM. JOURNAL OBST., 1871, vol. iv., p. 434.

³ Am. Jour. Med. Sc., April, 1878, vol. 75, p. 313.

⁴ This JOURNAL, vol. xiv., p. 348.

lips of the womb takes place to a great degree, the external edges being beveled off, and as soon as absorption commences below in the interior, the slit would be enlarged, affording ready exit to the fluids. To obviate such results was the *aim* in the introduction of sutures."¹ Lungren did not cut out pieces of the muscular tissue, he did not undermine the peritoneum, but he applied peritoneal *surfaces*, not edges, against each other, and used five *deep* silver sutures not comprising the mucous membrane; in other words, he did the only thing that is important about the uterine suture, beside using enough for the purpose, and he did it with a definite aim in view.

Moses Baker, of Stockwell, Tippecanoe County, Indiana, used carbolized silk, did not comprise the mucous membrane, and "brought his sutures out at a short distance from the incision through the peritoneal coat, so that, when they were tied, they *brought the peritoneal coats together first*."²

In both these cases, we have a symperitoneal suture, but, it must be admitted, a comparatively small number of sutures and no double suture. This double suture, that is to say, deep muscular and superficial peritoneal sutures, is, however, most distinctly described and most strongly insisted upon by Spencer Wells. In the *British Medical Journal*, June 11th, 1881, p. 909, he said, and repeated it in his book on "Ovarian and Uterine Tumors," 1882, p. 503, "In the two years which followed [an operation performed in 1878], I adopted two important modifications in the operative procedure: first, the more complete use of antiseptic precautions; and secondly, the union by suture of the peritoneal edges of the divided uterine wall. I also contrived better pressure-forceps for securing divided blood-vessels before tying. In the paper read at the Cambridge meeting of the British Medical Association in August, 1880, and published in the *Journal of the Association*, September 4th, 1880, I said, "Whatever doubt some may entertain as to the value of my experiments on animals, and practice on women, in leading most operators in the present day to bring divided edges of peritoneum together whenever they have been separated by wound or by operation, I myself have no doubt whatever about it; and just as strongly as I assert that it is, and must be, better, when the abdominal wall is

¹ Lungren, in this JOURNAL, Jan., 1882, vol. xvi, p. 92.

² Baker in this JOURNAL, 1881, vol. xiv., p. 599.

divided, to bring the peritoneal edges and *surfaces* of the opening together, restoring the complete closure of the peritoneal cavity, than to leave the cavity free to the admission of fluids oozing from wounded muscle, fat, and cellular tissue, and to allow contact of intestine and omentum with anything more than peritoneum; so strongly—more strongly if I could—would I insist that *the peritoneal edges of the divided uterine wall, or of the connecting part of the outgrowth with the uterine wall, should also be carefully brought together . . . by many sutures, or by an uninterrupted suture along the whole extent of the gap.*" Here, then, we have the rule laid down in the most unequivocal terms, and with the authority of a master laparotomist, that when the uterine wall has been incised, not only the muscular tissue and the linear edge of the peritoneum shall be united by sutures, but that the peritoneal *surfaces* shall be brought in contact, just as he had taught it long ago for the abdominal wound in ovariectomy. Since the quoted passage refers to the removal of tumors from the uterine wall, there cannot be the slightest doubt that he first put in deep sutures to arrest hemorrhage, and afterwards superficial ones in order to obtain the agglutination of the peritoneal surfaces. That he speaks of tumors, and not of Cesarean section, does not make any difference. The rule applies to "division of the uterine wall," and no thinking man, who admitted the justice of his remarks, would hesitate one moment in applying the rule to Cesarean section.

But the case is even stronger than this. The doctrine had been applied to Cesarean section, and carried out in practice before Säger's book was published. In his second operation, performed on the 13th of November, 1881, Kehrer used the double suture. The whole thickness of muscular tissue of the uterus was united by ten silk sutures, comprising the mucous membrane but not the peritoneum, and the peritoneum, together with the most superficial layer of muscle, was brought together over it by means of twenty-five sutures. Kehrer accompanied his description by a drawing, showing plainly how he brought the peritoneal *surfaces* in contact.¹

This way of suturing is less good than the one now used, but

¹ Kehrer, "Ueber ein modificirtes Verfahren beim Kaiserschnitte," in Arch. f. Gyn., 1882, vol. xix., pp. 196 and 206.

it certainly is, and was so called by Kehrer, a double suture, muscular and peritoneal.

I myself operated on the 6th of October, 1882, and *used exactly that kind of double suture which later has been adopted by Leopold*, after he gave up Säger's muscular excision and undermining of the peritoneum, with the only exception that I comprised the mucous membrane in the loops, and used silk, both of which seem to be less good than to leave the mucous membrane untouched and use silver for the deep sutures. The reason for not passing the sutures into the cavity of the uterus is that septic material may find its way along the sutures out into the peritoneal cavity. As to the advantage of silver over silk for deep sutures, there is yet room for doubt, silk having given excellent results in Cesarean section and in the removal of fibroids from the uterus. Leopold, however, having tried both, has decided himself in favor of silver. He says: "Deep silk sutures, so far as could be observed in the four cases, strangled the edges of the wound, made them anemic, and caused most probably a decomposition of the superficial layers of tissue, which became the cause of abscesses in the abdominal wall. It must also be taken into consideration that if several deep silk sutures lie very near up to the decidua, it may favor the development of suppuration in the track of the sutures. Furthermore, it ought to be remembered that the more the sutured uterus contracts during the lying-in period, the closer the many sutures will come together."¹

Leopold uses no drainage, neither peritoneal nor utero-vaginal, and it seems indeed not to be called for.

On the other hand, he dusts the interior of the womb with iodoform,² and Jewett³ left in his case a pencil of it in the cavity. The use of this drug is worthy of imitation, since it has proved so valuable an antiseptic, and has the special advantage over the other antiseptic substances of extending its effect over a longer period of time.

In his two last operations, immediately after opening the abdomen, and even before he introduced the sutures at the upper end of the wound, he fastened the peritoneum with six or eight sutures, three or four on either side, to the rest of the ab-

¹ Leopold, in *Archiv f. Gynäk.*, 1885, vol. xxvi., p. 426.

² *Archiv f. Gynäk.*, xxviii., p. 106 (seventh case).

³ Jewett, in *New York Medical Journal*, August 29th, 1885.

dominal wall. It is to be regretted that he does not state with what material and with what kind of suture, nor to what end he does so. If the intention is to insure the application of serous surfaces to one another in the abdominal wound as well as in the uterine wound, the experience gained in ovariectomy does not seem to make this step necessary, and any superfluous step before the delivery of the child ought to be avoided. If the aim is to shut off the peritoneal cavity more efficiently from the wound in the abdominal walls where an abscess might form, I think it would be preferable to make a special peritoneal button-hole suture with catgut, as Dr. J. B. Hunter does in ovariectomy.¹ This forms a very reliable barrier between the wound and the peritoneal cavity, and has the advantage that it is done toward the end of the operation, when the operator is through with all the other steps undertaken in the interest of both mother and child.

From this rapid glance over the improvements which the Cesarean section has undergone in the course of the last twenty years, I trust every impartial reader will conclude with me that it is impossible to give the operation, in its new shape, the name of any particular man. We would have to combine one of a dozen or more proper names, which would make a longer word than Mark Twain's celebrated letter procession.

However this may be, the results of this improved Cesarean section have so far been of such a character as to merit our serious attention. The lists referred to in the beginning of this article contain twenty-six operations in which the above-mentioned improvements were more or less carried out. Of these twenty-six women, nineteen survived, that is, 73.1 per cent. Of the seven who died, Beumer's patient had bilateral pyelonephritis, and my own was exhausted by ante-partum hemorrhage, beside being a cripple, with remnants of extensive vertebral caries, pleuritis, and pulmonary phthisis, and a sufferer from organic heart disease.

In three other cases (Leopold's fourth, Münster's, and Drysdale's) infection had taken place before the operation was performed.

In Jewett's case, the patient had cancer of the cervix, and

¹ Hunter, "Fifty Cases of Abdominal Section," in *New York Medical Journal*, April 5th, 1885.

erysipelas had appeared in the hospital in which the operation was performed.

Thus, of all the twenty-six cases, Ehrendorfer's patient, who succumbed to peritonitis, probably due to the fact that during the operation some meconium entered the peritoneal cavity,¹ may fairly be said to be the only one who died in consequence of the operation.

It is of particular interest to see that one operator, Prof. Leopold, of Dresden, has operated nine times, saving eight women, and all the children. The two maternity hospitals of Dresden and Leipzig together have had sixteen operations with fifteen maternal recoveries and the survival of all the children.

It is not to be expected that this record will be kept up to its present standard. So far, the excellent results are due to the fact that so large a proportion of the cases have been operated on by one man, and a still larger proportion by a few men, all intimately connected, all perfectly familiar with antiseptic precautions, and skilful gynecologists. It is to be expected that when the operation becomes so popular that it is performed by many, and less well-prepared operators, the results will again decline proportionately.

We must furthermore not leave out of consideration that Leopold, the chief operator in this line, does not use the operation in all cases, but substitutes Porro's whenever he has any cause to suppose that infection has taken place, or the patient suffers from cancer.²

Still, with all these limitations, the results so far are most promising, and I do not hesitate to say, compel us to place the improved Cesarean section above all its substitutes, so that it must be our first choice, from which only particular counter-indications ought to keep us back.

On the other hand, I am not prepared, with several authors, to teach that the improved Cesarean section should be substituted for craniotomy, and to stamp as an abominable crime the destruction of the living fetus, if by such a sacrifice there is reasonable hope of a safe delivery for the mother. We must remember that similar antiseptic precautions to those upon which success in the new operation seems exclusively to turn, have benefited the operation of craniotomy.

¹ Ehrendorfer, in *Arch. f. Gynäk.*, 1885, vol. xxvi., p. 130.

² See his three cases in *Arch. für Gynäk.*, vol. xxviii., No. 1.

1022 HOOKS : *Ovariectomy for Dermoid Tumor.*

Since the introduction of the bichloride and occlusion dressing treatment,¹ I have three times performed craniotomy on the presenting head, once of a dead and twice of a living child. All the mothers made an excellent recovery and at no time presented any serious symptom. One of them did not even have the slightest fever; the two others had a slight rise in temperature which soon passed off.

Of the two mothers whose children were living, one was a young, splendidly built primipara, with an excellent constitution, enjoying blooming health, and most happily married. All the trouble came from an enormous child with too advanced ossification. Following the golden rule to do to others as I would have others do to myself, I would not for a moment entertain the idea of proposing to a husband under such circumstances to submit his wife to even the most perfect of all Cesarean sections.

The other mother, likewise a primipara, was an inmate of the New York Infant Asylum, a poor unmarried girl, with a flat, generally contracted pelvis. After having in vain tried to deliver her by means of Tarnier's and Simpson's axis-traction forceps, I perforated the head and delivered with the cranioclast. This patient did certainly not wish to run a particular risk in order to give birth to an illegitimate child, and when we remember how pitiful the life of these poor waifs usually is, and how small their chance of survival beyond five years, nay even one year is, I, for one, do not feel any pangs of conscience for the way in which, in this case, I made an end to the disproportion between the maternal and fetal organisms.

OVARIOTOMY FOR DERMOID TUMOR IN A CHILD THIRTY MONTHS OLD.

BY

J. F. HOOKS, M.D.,

Paris, Texas.

ADA HURST, female, aged 30 months, was brought to this place from Delta County by her parents June 25th, 1886. Two physi-

¹ Garrigues, "Prevention of Puerperal Infection," in the *Med. Record*, Dec. 29th, 1883.

cians of Delta County had been treating the case as one of ascites for several months. Dr. E. W. Rush and the writer were requested to examine the case, with the view of making a diagnosis.

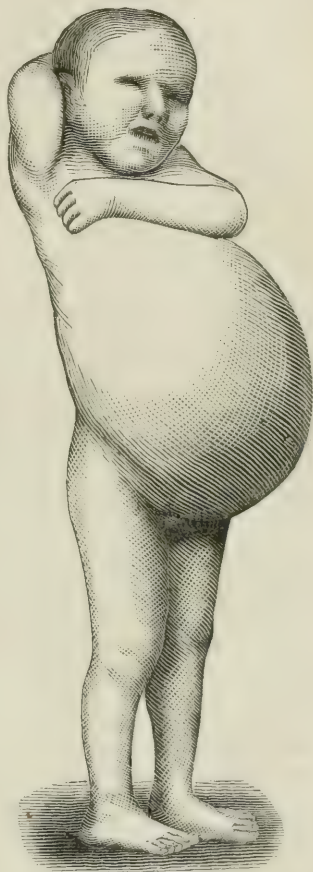
In company with Dr. Bramlette, of this place, we made a careful examination under anesthesia, which resulted in a concurrence of opinion as to the existence of an abdominal tumor, and we were inclined to believe it ovarian, notwithstanding the age of the child.

The child was fairly developed for her age, and had always enjoyed good health. The abdomen was enormously enlarged, measuring twenty-nine inches in circumference at the umbilicus; above the umbilicus, as high as the ensiform cartilage, it was much larger. The distention was so great that the diaphragm and contents of the chest were forced upward to such a degree as to materially interfere with respiration.

The case, as before stated, had been diagnosed "abdominal dropsy" by two physicians, and had been twice tapped by these gentlemen, only a few ounces of straw-colored fluid escaping through the canula.

The result of our conference as to the character of the tumor, the necessity of operative interference to save the life of the child, together with the dangers attending so formidable an operation upon a child of her age, were fully laid before the parents, who were advised to confer with their physicians, and determine for themselves what course they would pursue in the matter.

The child was taken home, but on the 2d of July they returned, the parents having become fully convinced that the child would live but a short while unless some relief could be rendered. They had, therefore, fully made up their minds to have an operation performed. On the morning of the 3d of July—Dr. Fort having been requested to see the case with us—the patient was again chloroformed, and a second thorough examination made, with the view of removing any doubts, should they exist, from



the minds of the consulting physicians as to the nature of the tumor or the propriety of an immediate operation for its removal. The result of this second and more thorough examination was confirmatory of the diagnosis previously made, namely, that the tumor was ovarian, and had its origin in the left ovary. Treatment was instituted to put the child in the best possible condition to undergo the operation, which it was decided should be undertaken on the morning of July 6th.

I would state just here that the parents of this child first observed a slight enlargement of the abdomen about twelve months ago. But for the last six months the increase of growth had been very rapid. Even the few days which intervened between the first and last examinations showed a perceptible increase in the distention, and a corresponding increase in difficulty of breathing. That the child could survive but a short time in its present condition was apparent to all who saw it.

On the morning of July 6th, the patient being anesthetized by Dr. Bedford, the writer, assisted by Drs. Rush, Bramlette, Fort, and other medical men of this city, under every antiseptic precaution, proceeded to make an abdominal incision extending from just below the umbilicus to near the symphysis pubis, an incision some three or three and a half inches in length. This incision was made short, for exploration, and with the intention of evacuating the sac, and drawing it through the incision in the event it proved to be a unilocular cyst. Immediately upon opening the peritoneal cavity, quite a large pellucid sac with extremely thin walls rushed out and ruptured. This sac or cyst sprang from the larger tumor on its lower anterior surface above the pedicle. The main tumor was large, firm, and resisting, and completely adherent all over its anterior surface. I endeavored to evacuate the main tumor with trocar, but failed, as its contents were too dense, viscid, and semi-solid to pass out through the instrument. I incised the tumor and endeavored to break it up, but failed. The incision was then enlarged, and the adhesions to the parietal walls and omentum were broken down with the hand; the entire lower part of the tumor, that is extending far down on each side from its anterior surface, was firmly adherent to the omentum. It was not until the incision had been extended to near the insertion of the diaphragm that the adhesions could all be broken up and the tumor extracted. When lifted from its bed, it was found to spring from the left ovary by a short, thick pedicle, which was at once transfixed with a needle, armed with stout iron-dyed silk ligature, doubled; ligature was then cut and tied both ways, pedicle cut, and tumor removed.

There was no hemorrhage from stump of pedicle, which was mummified with a weak solution of persulph. iron, and returned to abdominal cavity; the ligatures attached to the same being brought out at the lower end of the abdominal incision.

There was considerable blood oozing from the adherent surfaces, and several catgut ligatures had to be applied to bleeding

vessels in the omentum, all of which created considerable delay in closing the wound.

In closing the abdominal wound, the peritoneal edges were first brought together by non-interrupted catgut suture, silk being used for closing. The external wound was supported by one or more deep-seated wire sutures entering near peritoneal edge and coming out some half-inch from the margin of abdominal incision. A drainage tube was placed at the lowest angle of the wound, which was dressed strictly antiseptically. The little patient reacted promptly from the effects of the anesthetic, and seemed bright and cheerful. A hypodermic injection of morphia was given, and the patient rested well for some two hours or more. In a short time after the child was aroused from sleep or the quietude produced by the morphia; she became restless, and the temperature soon ran up to 102°. Thirst, which was great, was allayed by pellets of ice.

At 7 P.M., $\frac{1}{16}$ gr. of morphia was given hypodermically, which produced quietude for a few hours. She still suffered greatly from thirst; temperature continued to rise, until from 12 to 1 o'clock it registered 105°. From 1 to 7 A.M. on the 7th there was a slight lowering of temperature, no diminution, however, in the excessive thirst, and great restlessness. At 10 o'clock on the morning of the 7th, the temperature having again gone to 105°, I raised the dressing to see that all was right with the wound. There had been but little drainage from the tube, and everything was sweet and clean. I injected a few ounces of weak solution of carbolic acid and muriate of soda through the drainage tube, which returned with only a slight stain of bloody serum in the first few drachms. There was no unpleasant odor of the wound or of the returned fluid.

The little patient, however, grew more restless, became unconscious, and death closed the scene at about 2 P.M. the day after the operation, the patient having survived the operation about twenty-four hours.

The tumor, after removing all we could through the canula, the trocar having been plunged into every cyst which it was thought would drain, with the view of reducing the bulk of the tumor as much as possible, weighed nine and a half pounds, and was composed of numerous cysts filled with a jelly-like fluid, some cheesy; much of the tumor was comparatively solid, being filled with a white, thick, cheesy matter, interspersed all through with hair and bony deposits.

I attribute the fatal termination of the case to the extensive adhesions formed, and the magnitude of the operation in a child of such tender years.

A CASE OF SUSPECTED TUBAL PREGNANCY,
RUPTURE, DEATH.

OBSERVED BY

B. FEICHT, M.D.,

Allegheny, Pa.

THE following case, with specimen, was presented to the Allegheny County Medical Society, on June 13th, 1886, and on account of the difference of opinion as to its real nature, and the various points of interest touched upon in the discussion, is offered for publication. I shall first give the majority report presented to the Society, and then the opinion of the one member who dissented from his colleagues.

Majority Report.

M. B., Oparous, æt. 19, a light brunette; weight about 130; height five feet two inches. A perfect specimen of physical woman, with previous history of good health; menstruated regularly, and followed usual course as to time and amount of catamenial discharges. Married January 20th, 1886. On the 26th of same month, symptoms of nausea supervened of so distressing a nature that it was deemed best to summon medical aid. Dr. Feicht, of Allegheny, was called, who, after careful inquiry, and upon previous knowledge of patient's habits of large, irregular, and improper eating, attributed these symptoms to gastric irritation from excessive acidity; prescribed subnit. bismuth, bicarb. of potassium, and morphine sulph. gr. $\frac{1}{8}$ p. r. n. Upon the administration of these remedies nausea ceased. The following day the patient insisted upon a thorough investigation of her case, asserting that for personal reasons she hoped he would find her pregnant. Accordingly the doctor re-examined, making a complete review of symptoms, objective and subjective. Nausea absent. There was neither swelling, heat, crepitation, nor tingling of the breasts; no enlargement of the tubercles of Montgomery, nor darkening of the areola. The brown abdominal line was absent, the neck also was free from pigmentation or swelling. There was neither excessive heat nor discoloration of the vaginal mucosa, the cervix was neither open nor softened, she did not complain of irritation of the bladder or bowels—none of the usual signs of pregnancy were to be found; the third day the patient expressed herself as well and was attending to household duties. Discharged.

About March 17th, 1886, Dr. J. W. Bell was called to see the case; found her in bed; she had been ailing for twenty-four

hours; complained of general abdominal pains, without a point of special intensity; to digital examination the os was hard and closed, and upon inspection of normal vaginal appearance, but menstruating. This, it will be observed, was at about the time for return of second menstrual period. The doctor made careful inquiry for clots or membranes, and was assured neither had been passed. An opiate was prescribed and two days thereafter he met her on the street, when she expressed herself as feeling "all right."

At 3 o'clock on the morning of April 1st, her husband arose to go to his work; she requested him to remain yet awhile, as she was not feeling well. At 4:40 he attempted to rouse her; thought she was "in a trance;" sent for a neighboring physician, who pronounced her dead. A post-mortem examination was held the same afternoon by Drs. Feicht and D. W. Riggs, who found a large extravasation of clotted blood in the peritoneal cavity, and its source to be from a recent lacerated wound in an enlargement of the right Fallopian tube.

Your commission, composed of Drs. B. Burns, Jno. D. Davis, and G. M. Shillito, assisted by Drs. B. Feicht, D. W. Riggs, Andrew Easton, and W. S. Huselton, met April 26th. Upon section of tubal enlargement, an incision being made in its long axis superior, a blood-clot of about one troy ounce, in various stages of low organization, was turned out. A careful inspection of this clot failed to present us with fetus, placenta, or membranes. The uterus was not enlarged, nor were the Fallopian tubes or round ligaments. Upon opening the uterus, it was found perfectly smooth and empty, not even exhibiting the site or trace of a former decidual membrane.

The cervical canal contained a tenacious milky mucus, the evidence of a chronic endocervicitis, and one of the conditions said by Sims, Thomas, Emmet, Mundé, and others, to be a cause, mechanical, of sterility. Examination by Dr. Davis as follows: "Have examined uterus, appendages, and pathological condition of right Fallopian tube.

Weight of uterus and appendages,	2½ oz.
External length of uterus,	2.5 inches.
Internal " "	2.2 "
Distance between cornua,	1.1 "
Distance from right cornu to tumor,	1.7 "
Long diameter of right ovary,	1.5 "
" " left	1.2 "

In uterus I found nothing of any note. There was no apparent thickening of the mucous membrane. In the cervix, found a thick, tenacious mucus, with much columnar epithelium; could not discover any enlargement of Fallopian tube between uterus and tumor, nor was the mucous membrane in any way different from that in left Fallopian tube. There was no apparent increase in the number or size of the blood-vessels in

the right broad ligament or in the walls of the sac. The contents of the sac, as revealed by microscope, consisted of blood clot and fibrillated fibrin. Lining the true sac of the tumor was a low organized tissue resembling embryonic tissue, such as we might find as a result of so-called fibrinous inflammation, but *no villi*, nor anything resembling villi. I made a careful section of both ovaries for purpose of finding a true corpus luteum. In left ovary, I found Graafian follicles in different stages of development. One was almost matured, the tunica albuginea being as thin as tissue paper, showing that had there been any arrest in the development or production of Graafian follicles (as there is supposed to be in pregnancy), such arrest must have been very recent. I also found corpora lutea in different stages of retrogression. In right ovary, I found Graafian follicles, but none so near maturation as in the left. The corpora lutea in the right ovary were larger and more marked, and seemed to have discharged their contents more recently; but there was no corpus luteum that could be possibly construed into what we understand and believe a corpus luteum of pregnancy to be."

Dr. J. C. Dalton tells us that a corpus luteum of menstruation passes rapidly through its different stages, and is very soon reduced to a condition of atrophy, so that at the end of the fourth week it is not more than three-eighths of an inch in its long diameter, while that of pregnancy continues its development for a long time, attains a larger size and firmer organization, even measuring at end of second month seven-eighths of an inch in diameter. Coste states that the corpus luteum of pregnancy at end of second month has a diameter of one inch, and that there exists so notable a difference between the corpora lutea which are formed as a sequence of conception and those which occur aside from the conditions developed by impregnation, that he has no hesitancy or difficulty in pronouncing between them. Haller, Milne, Partridge, and many others point out the same marked difference. Drs. Baley and Kirke, who have investigated the subject carefully, make this statement: "If the corpus luteum be of small size, does not contain so much yellow substance as would form the size of a pea, no conclusion as to pregnancy having existed can be drawn."

Cazeaux, p. 591 ("Theoretical and Practical Midwifery"), states:

"The womb does not continue so indifferent to the advancement of extrauterine pregnancy as might be supposed, for its volume increases in a remarkable degree, the tissues become softer, and the mucous membrane hypertrophied and more vascu-

lar, so as to form from the outset, a true decidua," *et idem*, p. 594: "In the majority of cases, vomiting occurs more obstinate and violent than in normal pregnancy." "The mammary glands are also enlarged, the areola browned, and the tubercles of Montgomery developed." "A more marked phenomenon, described in all cases that have been carefully observed, is a more or less acute abdominal pain analogous to that designated uterine colic; commencing in most cases shortly after conception, it lasts to the end of pregnancy, with alternations of increase and diminution. The seat of this pain is in the hypogastrium and the flanks."

Rogers, "Extrauterine Gestation and Fetation," p. 14, in speaking of these pains, declares they are "almost pathognomonic," and, if "accompanied by sanguinolent and by occasional clotty discharge from the uterus, they are almost certainly indicative of extrauterine pregnancy." Heim (Keller, "Des Grossesses Extra-uterines," p. 45), Campbell ("A Memoir on Extrauterine Gestation," p. 121), Blundell ("Principles and Practice of Obstetrics," p. 478), and Barnes (St. Thomas' Hospital Reports, 1870), attach so much importance to this symptom as to class it among the group of signs indicative of extrauterine gestation. The absence of this pain means an absence of muscle fibres in the fetal sac or envelope, its presence the converse, so that in interstitial and tubal pregnancies we would expect to find it a constant source of complaint. Goupil, Stoltz, Madame La Chapelle, Parry, Scanzoni, Barnes, and many others, mention the fact of metrorrhagia being one of the concomitants of this pain and of extrauterine gestation. From the history of the case, it will be observed this patient was not so troubled. On the contrary, she was free from severe pain, and menstruated scantily at the second menstrual molimen; the latter fact we conclude is explained by the patency of the left tube and uterus. The enlargement of the womb noted casually by nearly all writers upon this subject, without special reference to the age of the abnormal gestation, is thus spoken of by Dr. Emil Noeggerath (January supplement AMERICAN JOURNAL OF OBSTETRICS, 1882), in a case of tubal fetation at two weeks.

"The uterus was enlarged in all its diameters; three inches deep, contained decidua. A portion cut from tube showed, microscopically, chorion."

The pathological specimen under discussion was supposed to be one of tubal fetation at ten weeks, yet manifested none of these conditions. The absence of decidual membrane in the

uterus or tubes brings us to the consideration of one of the moot points in the history of extrauterine fetation. From the time of Boehmerus to the present day, no department of this subject has enlisted so much attention or educed more conflicting testimony. Your commission have examined the histories of seven hundred and seventy-six cases of extrauterine fetation; one hundred and sixty-two of which have been collated from various journalistic sources *since* 1880, and find that in all of these where mention is made of decidual membrane its habitat *was the uterine cavity*; in no instance have we found absolute evidence of decidual membrane surrounding the ovum. Parry tells us ("Extrauterine Pregnancy," p. 70):

"It is no part of the function of the mucous membrane of the Fallopian tube, and still less that of the membrane lining one of the Graafian vesicles, to form a decidua."

The duration of retention of this uterine decidual membrane varies from a few months (Cazeaux) to nine and one-half, and even ten months (vide Prof. V. Maggioli, *AM. JOUR. OBS.*, 1883, p. 208; Prof. T. Gaillard Thomas, *AM. JOUR. OBS.*, 1885, p. 89; et Duget, quoted by Tait ("Diseases of the Ovaries," p. 87). Death occurring in the earlier part of extrauterine gestation, where the membrane has been cast off piecemeal, or by the violence of uterine contractions almost entire, we may yet find portions of it left within the uterus, and, in the event of its total absence, the uterine mucosa would be hypertrophied. Neither conditions prevailed. The cardinal point, about which there is an unanimity of opinion, is, that in pregnancy, intra- or extra-uterine, the corpus luteum of gestation is found in one or the other ovary; in this specimen, the corpora lutea of menstruation alone were found. In consideration of the foregoing facts, your commission feel justified in their conclusion that this was not a case of tubal pregnancy.

In Hart and Barbour's "Manual of Gynecology," 1st vol., p. 191, speaking of "hemato-salpinx," the following passage occurs:

"This is a rare condition, in which the blood from the congested mucous membrane of the tube is detained there and dilates it. Bandl records one case where he diagnosed the condition as a fibroid; and Tait one simulating an ovarian cyst."

Sir Jas. Y. Simpson ("Diseases of Women," p. 543), discussing "hemorrhagic effusions into the Fallopian tubes," says:

"Whether or not the mucous membrane of the Fallopian tubes be ever thus the seat of a physiological hemorrhage, we find, as a matter of pathological observation, that these canals may become filled and distended to a considerable degree with extravasated blood. When the extravasation takes place slowly, as in most cases it seems to do, and there has existed previously such an extent of occlusion of the canal that the fluid does not escape into the peritoneal cavity, the occurrence does not give rise to any symptoms so severe as to excite the patient's notice, or to enable us to make a diagnosis regarding it."

Scanzoni ("Diseases of Females," p. 373), under caption of "Hemorrhages in the Canal of the Tubes," saith:

"Thus, during our residence at Prague, we saw a pathological preparation in which the right oviduct was in two places obliterated. It was dilated to the size of a pigeon's egg, and contained a pultaceous mass, of a yellowish-brown color, composed of fibrin and altered blood-corpuscles, which could not but have proceeded from an effusion of blood which had taken place long before."

C. J. Rayley Owen, M.R.C.S., read a paper and presented specimen of "rupture of the Fallopian tube" to the Harveian Society, January 15th, 1880; reported in *Lancet* same year, p. 37-38:

"The left Fallopian tube was small; in the right one, a quarter of an inch from the uterus, an opening, of the size of a horse-bean, was seen, from which a little fibrinous material was oozing."

Mr. Marsh, who conducted this autopsy, stated, before opening the body, "almost the last private examination he had made was on the body of a young unmarried lady who had caught cold at her period, and died from rupture of the Fallopian tube."

From the sum of this testimony, and the consideration of many additional instances of single and double hemato-salpinx, we conclude this patient suffered from occlusion of the uterine and fimbriated extremities of the right Fallopian tube; that the menstrual secretions were detained there, and that, owing to some cause, perhaps traumatic, rupture of the tube took place, upon which fatal hemorrhage occurred.

Respectfully,

B. BURNS, M.D.

JNO. D. DAVIS, M.D.

Minority Report.

Mrs. L. B., aged 20. Always enjoyed good health to the date of her marriage, Jan. 20th, 1886. Menstruated the week previous, and soon after complained of nausea with occasional vomit-

ing. Dr. Feicht was called, and after careful inquiry prescribed pepsin and soda bicarbonate to correct the gastro-intestinal disturbance. Subsequently she became anxious about her condition, and requested an examination with reference to the possibility of her being pregnant.

The doctor was unable to find sufficient evidence to justify an opinion, and gave a guarded diagnosis.

Soon afterward she moved, and, following the necessary exertion, was taken ill March 12th with severe pain in the lower part of the abdomen. Dr. Bell was called in and, learning that she had already some discharge, made an examination per vaginam, and found but a slight show, which she said had continued for some days previous. After a careful hearing, he concluded that she was pregnant, and was threatened with miscarriage from the over-exertion.

He prescribed morphia and perfect rest, and did not see her again for two days, when she was up feeling as well as usual.

She continued well until March 31st, when she was taken with faintness while combing her hair, but soon revived, when the pain returned as at the visit of March 12th. Dr. Bell prescribed morphia as before. After being relieved by the medicine, she spent a good night until 3 A.M., when she complained of not feeling so well. Her husband administered another dose of the medicine, after which she seemed to rest until 5.20 A.M., when on waking he found her dead.

Dr. Feicht, who had been the family physician, was sent for to make a post-mortem examination.

The abdominal cavity was found filled with blood, which was hurriedly emptied, and unfortunately was not carefully examined.

On further examination, an enlargement was found in the right Fallopian tube, extending from near the middle to within three-quarters of an inch of its fimbriated extremity.

The uterus, with its appendages, was removed at the supra-vaginal junction, and placed in alcohol for preservation. On account of a desire on the part of Dr. Feicht to present the specimen to the Society without further mutilation, all further examination was deferred until May 26th.

At the meeting of the committee appointed by the County Society to examine the specimen and report at a subsequent meeting, an incision was made into it in the direction of its longest diameter, which was found full of fibrinous accumulation, and intermixed through the clot were found papery membranes which bore none of the evidences of being mucous membrane. One piece was found with an irregularly torn hole in its centre, corresponding with the rupture in the sac, and driven into it in a funnel form. Moss-like tufts were also found among the accumulation in the sac, and, after a careful examination by several methods, I am of the opinion that the former were the proper membranes of the ovum, and the latter were parts of the placenta.

In the present condition of the specimen, the evidence from the appearance of the "corpus luteum" is very unsatisfactory, owing to the short duration of the impregnation and the tanning effect of the alcohol. Besides, Barnes says: "The best authorities now agree that there is no infallible sign or character by which the corpus luteum of pregnancy can be distinguished from that of the non-fertilized ovum. The differences are chiefly those of size and length of duration, and cannot be relied upon in determining disputed cases. The terms true and false, as applied to the two kinds, appear, indeed, to be altogether erroneous, as the two structures are essentially similar, and in many cases indistinguishable from one another."

Owing to the lodgment being so near the fimbriated extremity of the Fallopian tube, the uterus presented little evidence of enlargement. The internal surface of the neck was filled with a tenacious grayish secretion, as might be found in a "cervicitis." Hodge says: "Some changes may be observed in the first two months, as the organ enlarges for a short time. There is, however, very little development or alteration in the cervix uteri similar to that which occurs in pregnancy, and occasionally there is a gelatinous secretion from the glands of Naboth occupying the cervix."

The gentlemen who have given me the ante-mortem history failed in their examination to find any change in the mammary glands.

"The mammæ (says Hodge), with their papillæ and areolæ, imperfectly and irregularly sympathize with the pelvic disturbance. Sometimes no change whatever occurs in these tissues."

The discharge described by Dr. Bell at his visit on March 12th, which he thinks was never more than a slight stain, was, no doubt, from the early disintegration and passing off of the decidual membrane.

By permission, I append the opinion of Dr. Wm. Goodell to whom the specimen was submitted:

"I regard the specimen as one of extrauterine fetation."

The information obtained from others I have given as nearly as possible in their own words.

G. M. SHILLITO.

4 OHIO ST., Allegheny City, Pa.

OVARIOTOMY FOR DOUBLE OVARIAN TUMOR WITH TUBERCULAR PERITONITIS.

BY

MARY SNODDY WHETSTONE, M.D.,

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LILLIE H., age 20, Norwegian, unmarried, nullipara, a prostitute, health very good until Feb., 1885, when she began to feel weary and sleepy after slight exertion. About that time she noticed an enlargement, the size of an orange, in the right iliac fossa.

July, 1885, tumor had increased to four or five times the former size and continued to enlarge. There was a corresponding failure in health. No disturbance whatever of the menstrual function. First menstruation at age of 13; last, Jan. 15th, 1886.

Dr. J. H. Dunn informed me he had treated her in August and December, 1885, for pelvic peritonitis and syphilis.

Feb. 3d, 1886, patient was admitted into the Northwestern Hospital for Women and Children of this city. The journey fatigued her greatly. She complained of pain in the abdomen and pelvis; was anæmic, cachectic; skin dry, body covered with numerous copper-colored spots, appetite bad, bowels regular.

She presented symptoms of severe post-nasal catarrh which had existed for a year.

Examination of lungs revealed a few sub-crepitant râles over the left scapular region. Percussion over right infra-axillary space showed a decrease in area of normal lung sound. She said she had had no cough. Temp. 103.8° F.

Abdomen presented an irregular enlargement in the right side, extending upward to a line with the umbilicus. Appearance that of two tumors, one partially overlapping the other. Left side not much enlarged.

Fluctuation and area of dulness unchanged by change of position. Vagina, antero-posterior diameter shortened to about one inch. Transversely it was expanded to four or five inches. Posterior wall tense and resisting. Cervix drawn towards the patient's right, so that it rested nearly against the obturator foramen. It was scarcely one-fourth inch long.

Feb. 11th. Patient can retain but little food or medicine on the stomach. Respiration is imperfect, as each movement of the diaphragm increases the pain in the abdomen.

Feb. 12th. The average temperature to date has been 101° F. Distressing nausea. Patient called our attention to a change in the form of the abdomen, which she thought had occurred in the

night. Now the enlargement is symmetrical; dulness in left iliac, right iliac, and lumbar regions.

Feb. 14th, 7 A.M. Temp. 102° F., pulse 160, resp. 30. Pain increasing and symptoms of a septic condition more marked. Respiration very painful.

2 P.M. Drs. C. H. Hunter, S. F. Hance, A. S. Whetstone, and Mary G. Hood, saw the patient with me. It was impossible to examine her sufficiently to arrive at an opinion of her true condition. We decided to put her under ether at an early day, examine carefully, and be prepared for operative interference if indicated.

Feb. 16th, 5 A.M. Temp. 102.6, pulse 133, resp. 30.

11 A.M. Patient was etherized by Drs. Mary G. Hood and Elizabeth Norred.

When the patient was placed in the knee-elbow position, two tumors could be felt above the brim of the pelvis. Some thought there was a pelvic abscess, so I introduced a small aspirator into right posterior cul-de-sac. No fluid was obtained. We decided to make an exploratory incision.

Assisted by Drs. C. H. Hunter and H. H. Kimball, I proceeded to operate. There were present Dr. J. H. Dunn and others. An incision was made about three inches long, extending to near the symphysis pubis. The peritoneum was found greatly thickened and congested. All the other abdominal tissues were similarly changed, so that it was with difficulty that each was recognized and separated. In the effort to do so, the bladder was slightly punctured. It was immediately discovered and ligated with catgut. Adhesions were met with in all directions, except the anterior and superior bladder-wall was found free.

In left iliac fossa was a tumor extending three inches to the right of the median line, and upward to the superior border of the ilium. It was very firmly adherent to the peritoneum and iliac fossa.

In the latter place much effort and time was required in separating the tumor. Incision was enlarged to the umbilicus; cyst was filled with purulent fluid.

Exploration revealed another cyst in the right iliac and lumbar regions. It was also firmly adherent. At one place the wall was much degenerated, so that, in the effort to detach it, it broke and discharged some of its purulent contents into the abdomen. The cyst-wall was so firmly adherent to the posterior wall of the uterus that all of it could not be separated. That which remained adherent was thoroughly scraped. The pedicles of both cysts were very short and thick. Each was tied with a heavy silk ligature close to the uterus, and then dropped into the pelvis.

The cysts proved to be ovarian. There was little hemorrhage. The space occupied by the tumors remained empty. The intestines and omentum were covered with, held together and to the abdominal walls with a thick yellowish plastic exudate. In one point which had been torn, it was one-half inch in thickness. No attempt was made to remove it.

The abdomen was carefully cleansed with a two-per-cent solution of carbolic acid. A glass drainage tube was placed in the lower angle of the incision, and the edges brought together with eight stout silver sutures, and Lister dressings and flannel bandage applied. Operation completed at 1 P.M. Patient experienced little shock, from which she soon rallied.

4:30 P.M. Temp. 104° F., pulse 100. She is bright, and desired to talk about what had been done, but was restrained.

Midnight. Temp. 102.2, pulse 80, resp. 60.

Feb. 17th, 6 A.M. Temp. 101.4. Very comfortable.

She was given opium and quinine when necessary, and nourished with milk, beef juice, etc., every two hours. She was catheterized once in six hours.

Feb. 17th, 9 A.M. Removed the cork from the drainage tube. About four ounces of bloody serum flowed out. Irrigated with one-per-cent solution of carbolic acid, 90° F., until it flowed out clear. This was repeated in the evening. Fluid from tube similar in appearance to that of the morning, but less in quantity. Tympanites, slight involuntary movement of muscles of face and hands, and a vacant expression of the face. Sleeps most of the time. A slight hacking cough.

Feb. 19th. Temp. 103.2, pulse 168, resp. 40. Mind wandering. Involuntary urination. Secretion from abdomen now purulent; quantity, $\frac{3}{4}$ 1 to $\frac{3}{4}$ 2. The cough continues, which she says is caused by an accumulation of mucus from the nasal catarrh.

Feb. 20th. Patient very comfortable and bright. Tympanites almost disappeared. Purulent fluid and flakes of plastic material continue to flow from the tube. Abdomen irrigated three times every twenty-four hours. Since the operation, except on two occasions, the average temperature has been 101° F.

Feb. 22d. Involuntary micturition continues. To-day a bed-sore appeared on the left side of the sacrum. She expressed herself as feeling better than at any time for weeks.

Feb. 23d. Removed six of the sutures. Union good except near the tube, where the sutures were kept in a few days longer. Strips of adhesive plaster were placed across the abdomen, over line of incision. The glass tube was removed, and a soft rubber catheter substituted to irrigate the abdomen.

Feb. 25th. Tongue has been clean until to-day; it now presents a brown appearance. She no longer enjoys food, complains of a pain in the bowels. This was soon followed by profuse, watery, green-colored movements, sometimes involuntary.

Feb. 27th. Large doses of morphia and astringents produced but slight effect on diarrhea, until the discharge had continued more or less for two days.

Feb. 30th. The incision has united to one-half inch of the tube, where the sutures tore out. There is a marked depression of abdomen in the portion once occupied by the tumors, so that it is impossible to keep the plaster adherent over the incision.

Through the opening we observed the portion of incision over the depression was gradually sloughing and separating on the inside. Finally, the integument became quite thin, and the opening occupied by the tube enlarged to one and one-half inches in diameter.

March 12th. Patient has been quite comfortable during last ten days. To-day tympanites again appeared, followed by profuse involuntary action of the bowels. During several days it resisted almost all efforts to check it.

March 21st. Great dyspnea. The vital powers gradually failed until she was unable to move or swallow more than a teaspoonful of food. Great emaciation.

March 22d. Died. Five weeks after the operation.

March 23d. Autopsy made by Dr. C. H. Hunter.

Abdomen. The walls of the portion occupied by the tumors presented a black and dark-greenish color. The intestines had not come down, but still remained about four inches above the pubes, and were adherent to the peritoneal portion of the abdomen and to one another. Their surface was thickly studded with millet-seed bodies.

On right side of abdomen was a sinus, extending upward between the intestines and abdominal wall to the liver. On the left side was a similar one, extending to the short ribs.

Bladder contracted and greatly thickened. The point which had been punctured and ligated was healed.

Liver enlarged from fatty infiltration. It was adherent to the diaphragm.

Right lung retracted and bound down with old pleuritic adhesions. Incision revealed a few tubercular deposits. Lower lobe was destitute of air and presented a fleshy appearance.

Creamy pus exuded from the bronchi. The borders were in an atelectatic condition. Under the pleura, on posterior lobe, was a calcarious deposit.

Left lung. No adhesions. On incising a depression at the apex, found a few millet-seed tubercles. Leading from this was a white band, the size of a darning needle. The whole posterior lobe was edematous, and over its surface were scattered a few tubercles.

To Dr. C. H. Hunter I am also indebted for a microscopical examination of the cyst-walls.

On the peritoneal surface of these were found miliary tubercles, necrosed in the centre, and with round infiltrated cells. The other portion presented the ordinary appearance of pyogenic membrane. Over the peritoneum was found characteristic cheesy degeneration of some of the nodules.

I have presented this case because of the negative symptoms of tuberculosis previous to death.

It illustrates the unmistakable value of abdominal irrigation in keeping down temperature and affording comfort to the

patient. The latter was observed and commented upon by the patient. Her life certainly was prolonged thereby.

504 NICOLLET AVE.

REPORT OF THE PROGRESS OF OBSTETRICS AND GYNECOLOGY IN GERMANY.

BY

M. HOFMEIER, M.D.,

Assistant at the Gynecological Clinic of the Royal University, and Lecturer in Gynecology in Berlin.

CREDÉ's method of *managing the third stage of labor* has been for a long time the only one practised in Germany, but since a few years ago opposition was made to it almost simultaneously by different observers, this question has been again and again discussed until the present time. Two extensive papers recently published take up this subject anew, viz., Roemer's "Clinical Observations on the Third Stage of Labor," and Cohn's "On the Physiology and Dietetics of the Third Stage of Labor." The former is based on observations at Fehling's institute (Stuttgart), the latter on cases in Schroeder's clinic, in this city. Both authors conclude that too early and active interference is to be rejected, for the reasons previously discussed by other observers. But while Roemer advises to grasp the uterus immediately after the expulsion of the child, and to control it until the third stage is completed, Cohn prefers to remain expectant throughout, because the expulsion of the placenta from the uterus is a thoroughly physiological act which is almost always effected in a satisfactory manner without artificial interference. This opinion is based especially on the latest investigations by Schroeder and Stratz ("On the Physiology of the Second and Third Stages of Labor"). The further removal of the placenta from the parturient passages (vagina and cervix), however, must in nearly all cases be effected by manual aid, since after expulsion from the uterus there is no power which suffices to accomplish this. On this point nearly all papers published in the last few years in Germany agree, that the complete removal of the placenta had better not be left alone to nature, but be effected by some artificial means about one-quarter to three-quarters of an hour after birth. The result of the discussion which has been kept up for

years seems to be, that the over-active method has been restricted mainly in favor of a more physiological one.

The most important question which continues to rivet general attention in Germany—the best *method of performing the Cesarean operation*—is evidently approaching its settlement. I have on former occasions repeatedly referred to the various publications on this subject. According to the most recent communications by Saenger, Credé, and Leopold, it appears almost certain that the old method, with accurate uterine and peritoneal suture, will have the preference in most cases. This view was also generally maintained in the discussion on this subject at the Gynecological Congress at Munich. No voice was raised in favor of the general justifiability of the Porro operation. This complete victory of the old method, which is due mainly to Saenger's efforts, rests on the latest papers by Credé, Leopold, and Saenger, according to which there were eighteen recoveries of nineteen operations performed in Leipzig, Dresden, and Innsbruck. It has therefore been demonstrated that under favorable conditions the best results are to be obtained by this method, and hence it will be employed not only in most cases of Cesarean section, but will be extended even to those cases where the indications are relative, as has been done, for instance, by Credé and Leopold. Saenger's method, so called, confines itself, according to the cases operated upon by himself in Munich, to the most accurate uterine and peritoneal suture, together with the careful application of the other principles of abdominal surgery. A certain class of cases, however, will always remain for the Porro operation, namely, those where there is degeneration of the body of the uterus. A similar case, especially notable on account of its peculiarities, which I had an opportunity to operate on in Madeira during last March, might here be briefly mentioned. The patient was 46 years old, and married nine months before. Pregnancy was complicated with several tumors larger than a fist, apparently not connected with the uterus, one of which, being firmly and deeply imbedded in the lesser pelvis, made spontaneous delivery impossible. Since the general condition of the patient prevented her coming to Europe, I was summoned to Madeira in order to perform the operation. The exact diagnosis had to be left undecided, as nothing definite could be learned regarding the origin of the tumors. During the operation these were found to be two myomas connected with the posterior uterine wall by a pedicle the thickness of two fingers; they were absolutely fixed by universal adhesions. The uterus being set with numerous other

myomas, I performed the Porro operation, enucleating the firmly adherent tumors, and dropping the pedicle. Convalescence was undisturbed; the child, which weighed 2,500 gm. at the time of the operation, developed very satisfactorily. This is one of the few Cesarean operations on account of myoma (according to Saenger, only ten altogether) which recovered, and the only Porro operation in which the pedicle was dropped which terminated successfully.

Within the last six months German literature has been enriched by three valuable works which represent *the relations of the gravid and parturient uterus* as revealed by frozen sections; viz., Chiari (Prague), "Topographical Relations of the Genitals of a Primipara who died intra partum;" Waldeyer, "Median Section of a Gravida with Breech Presentation of the Fetus;" Schroeder, "The Pregnant and Parturient Uterus." These three publications by different authors are of special value in the question which for years has been largely discussed in German literature, about the relations of the cervix and lower uterine segment towards the end of pregnancy and the beginning of labor. They agree in proving the persistence of the cervical canal until the beginning of labor and the spontaneous development from the uterus of the so-called lower segment. Owing to the small number of similar publications, these illustrations, faithfully drawn from nature, are of the greatest value also for showing many other topographical relations.

Mention might here be made of a most interesting observation which has also been formerly noticed, five cases of which Dr. Winter was able to refer to before the Obstetrical Society of Berlin, viz., *premature detachment of the placenta*, with internal hemorrhage and death of the fetus, *in nephritis*. These cases comprised the various forms of nephritis; without external cause, and at different times during pregnancy, placental hemorrhages and premature interruption of the gravidity took place. However, they throw no light on the true connection of these phenomena.

In the field of *gynecology*, general attention has been devoted to *tubal diseases* and their operative treatment. J. Veit has repeatedly pointed out the frequency, and the possibility of the early operative treatment, of *tubal pregnancy*. He exhibited at the meeting of the Obstetrical Society of Berlin on May 14th, 1886, a sixth tubal pregnancy operated on by him with success. I, too, have been able to convince myself of the comparative simplicity of the operation in a case shortly before under my care,

the specimen of which I exhibited at the same meeting. It seems the correct diagnosis causes the greatest difficulty in tubal diseases. Kaltenbach, Martin, and Frommel, in several lectures held at Strassburg, Munich, and Berlin, have endeavored to advance the pathological anatomy and symptomatology of tubal diseases. It is this defect in our knowledge of these diseases which must first of all be remedied, for the operative removal *per se* offers no special difficulty in the present state of laparotomy. To the tubal diseases heretofore known and accessible to operation, Hegar has recently added the *tubercular* form. In a small monograph ("Origin, Diagnosis, and Surgical Treatment of Genital Tuberculosis in the Female"), Hegar aims to determine the symptomatology of this disease, and, in connection with six cases operated on by himself, to demonstrate the advantage of the operative treatment which consisted of castration with salpingotomy. In the same paper are mentioned several laparotomies in *tubercular peritonitis*, in which complete recovery ensued after simple laparotomy.

In our clinic, too, three or four of these most interesting cases have been observed, in which laparotomy was performed either for diagnostic purposes or as a last resort, and aside from much free fluid in the abdominal cavity, the whole peritoneum was found studded with smaller or larger tubercles. In one case, these proliferations on the peritoneum were as large as a hazel-nut, and looked so much like carcinomata that they were held to be such until the microscope proved the contrary. In these cases, likewise, the ascites did not recur after the introduction of iodoform. Quite a number of similar cases were also reported at the Gynecological Congress in Munich, for instance, by Frommel, Graefe, Meinert, Olshausen, Saexinger, etc., all of whom observed a relatively benign course of this affection, with or without the employment of iodoform. In some cases, however, tubercular disease elsewhere was subsequently observed, but since the majority terminated favorably, tubercular peritonitis in general does not seem to offer a bad prognosis.

Sänger (Leipzig), in a paper read at the Gynecological Congress in Munich and another printed in the *Archiv f. Gyn.*, showed the possibility of *palpating the lower portion of the ureters* by bimanual examination, and pointed out the possible importance of this fact in the diagnosis of disease of these structures. The feasibility of the palpation was confirmed by many of the gentlemen present.

Very favorable reports have been published from various clinics

of the *continuous catgut suture* in plastic operations. Among these are communications by Rosenbaum, Keller, and Szabo, from the clinics of Leopold, P. Mueller, and Kezmarszky, who mention the extensive employment of this method of suturing for recent perineal lacerations and in plastic operations generally, and recommend it. The use of catgut in Germany spreads more and more; it finds application for the ligation of the stumps of ovarian tumors, for the uterine suture after myotomies and Cesarean sections, etc. I append a brief description of the mode of preparing the catgut: The raw material is immersed for twenty-four hours in oil of juniper, then for the same length of time in glycerin, and finally is left until needed for use in absolute alcohol, to which perhaps a little oil of juniper has been added.

Finally I shall report two interesting operations performed recently in Schroeder's clinic. In the one, there was a complication of nearly all the forms of tumor met with in the internal genitals. The patient was a nullipara, aged 37 years, from whose cervix depended a pedunculated fibrous polypus about the size of a hen's egg. The uterus besides was enlarged by several myomas the size of a fist, and carcinoma of the upper portion of the cervical mucosa was demonstrated. At the same time, an ovarian tumor the size of a man's head was present. The only thing to be done, therefore, was to resort to Freund's operation, which was accordingly performed. The patient, however, died on the second day of sepsis. Another and more important observation was the following: Amputation of the body of the uterus had been performed on a patient four years since for malignant adenoma. After years of good health, hemorrhages had again commenced, and in the remaining cervix were friable, evidently malignant masses. For this reason, the long and large cervix was extirpated from the vagina. Convalescence was undisturbed. This case showed that, in malignant diseases of the uterus, removal of the entire organ is certainly more correct than amputation of the body only. Even if the uterus is greatly enlarged, it is still possible to extirpate it through the vagina, as a number of cases have proved. I shall merely add that in Schroeder's clinic there have now been twenty-four cases of total vaginal extirpation of the uterus in succession without a death, fifteen of which were performed by Schroeder and nine by myself.

BERLIN, August, 1886.

CORRESPONDENCE.

STATISTICS OF OVARIOTOMY.

BY

DR. WILLIAM GOODELL.

TO THE EDITOR OF THE AMERICAN JOURNAL OF OBSTETRICS.

SIR :—Pardon me for troubling you with a second letter ; but fair play demands that I should defend myself from the misrepresentations and unfair expedients to which Dr. Price resorts.

Dr. Price headed his first paper "A Consideration of Dr. Goodell's Statistics of Abdominal Section." Now, as my statistics were wholly on the subject of Ovariectomy, and of Ovariectomy alone, and as on this foisted-in subject of "Abdominal Section" hinged Dr. Price's sharpest criticisms, I naturally objected to this title, and called it what I still shall call it—an "inexcusable misstatement." This "inexcusable misstatement" he now attempts to justify by another still more "inexcusable misstatement," in the following language: "If we examine the reports of Dr. Goodell for the last four years, 1882 to 1885 inclusive, the term 'laparotomy' is found used to designate the operations of two of these, while 'ovariectomy' is the term applied in the two others. 'Laparotomy' is 'abdominal section.' One term, therefore, in accordance with Dr. Goodell's nomenclature, is no wider in its signification than the other. The use of the terms as made in my review was with especial reference to the fashion of our author of applying either, as best pleases him, to his own operations. The title of my review, therefore, read in this light, is no 'misstatement.' Besides, in the very first sentence of the review, the 'statistics of ovariectomy' are distinctly mentioned."

This reply, Mr. Editor, is more than mere quibbling, more than simple verbal jugglery ; and were it not for the etiquette of debate, I would call it by a harsher name. My "reports" for the two years—viz., for 1882 and 1883—which were published in the *Medical News*, are headed respectively "A Year's Work in Ovariectomy," because they related simply to my work in ovariectomy, and to that alone. On the other hand, my reports for 1884 and 1885 were entitled respectively "A Year's Work in Laparotomy"; and why? Not because it is my "fashion of

applying either term as best pleases" me—a fashion which, if true, would have compelled Dr. Price, in order to be in keeping with me and with his afterthought, to use the term "laparotomy" instead of "abdominal section." Not because I do not know the difference between an ovariectomy and a laparotomy—a difference which Dr. Price evidently fails to understand—but because in 1884 I reported *all* my work in abdominal surgery, viz., 32 *laparotomies*, which comprised 22 ovariectomies, 8 oöphorectomies, 1 hysterectomy, and 1 exploratory incision; and in 1885, I again reported *all* my work in abdominal surgery, viz., 44 *laparotomies*, which comprised 28 ovariectomies, 9 oöphorectomies, 2 hysterectomies, 4 exploratory incisions, and 1 pelvic abscess.

I deny peremptorily that I have ever wittingly used the terms "laparotomy" and "ovariectomy" interchangeably, excepting in the sense that the former term is generic, and, therefore, includes the latter term, which is a specific one. But that Dr. Price did make the inconceivable blunder of confounding these two terms is self-evident. For not only did he entitle his review of my article on *Ovariectomy* "A Consideration of Dr. Goodell's Statistics of *Abdominal Section*," but he berates me, imputing even unworthy motives to me for not referring in it to Tait's "record of one thousand consecutive cases of *abdominal section*." Yet these one thousand cases included only 405 ovariectomies, the remainder being made up of exploratory incisions, hysterectomies, pelvic abscesses, nephrectomies, nephrotomies, Cæsarean sections, and, indeed, of almost every other conceivable *abdominal section*.

Further, if Dr. Price did not confound these two terms—"ovariectomy" and "abdominal section"—why did he make the puerile mistake of mixing up the statistics of each term inextricably? Why did he add Tait's last phenomenal series of 112 ovariectomies (which, as I previously showed, should have been 132 ovariectomies, only to quote his own language and his own italics, Dr. Price's "*figures do not fairly set forth the status of ovariectomy, if you please, as it exists to-day, and as one would of a right expect to find it detailed in*" a sharp criticism on my alleged statistical inaccuracy)? Why, I repeat, did he add these 112 ovariectomies to the whole group of Tait's one thousand cases of abdominal section, as if, during the nineteen months occupied by the performance of the former series, Tait had had no other abdominal sections than those 112 ovariectomies? Why, instead, did he not add them to the 405 ovariectomies, where every one who knows the difference between an ovariectomy and an abdominal section would have put them?

But I am not yet done with this "inexcusable misstatement;" for, if Dr. Price has not blundered in the definition of these two terms, what is the meaning of the following sentence taken from his "Consideration of Dr. Goodell's Statistics of *Abdominal Section*"? After imputing unworthy motives to me for not referring to Tait's "record of one thousand consecutive cases of abdominal section," he goes on to say: "Possibly the most remarkable list of operations on record in the field of abdominal surgery—that of the elder Keith—comprising thirty-eight consecutive *hysterectomies* with three deaths, is passed unnoticed." "Unnoticed" by me in an article on *Ovariectomy*! This is not sense, but nonsense; for, pray, what has a *hysterectomy* to do with an *ovariectomy*? What is Dr. Price driving at? I am sure that I don't know. Does he himself know?

I respectfully submit that no parallelism exists between Schroeder's fatal case of *ovariectomy*, which he hesitatingly reported as a recovery, and my fatal case (No. 126 of my series of *ovariotomies*), which I called a success, although the woman died on the thirty-fourth day after the operation. In Schroeder's case the cyst was malignant, and could not wholly be removed, and "the patient, in whom the irremovable part of the cyst had been sewed up, succumbed in the sixth week of her confinement." The incompleteness of the operation, a portion of the cyst having been left behind, led me to deem it fairer to include the case among the deaths than among the recoveries. In this decision I have since been confirmed by a discussion on Cohn's paper, "On the Advisability of Operating in Malignant Tumors of the Ovary," in which Schroeder himself, while warmly approving the operation under those circumstances, is reported to have said: "Very dangerous, however, is an incomplete operation, so that against this he could not too strongly warn."—(AMERICAN JOURNAL OF OBSTETRICS, May, 1886, p. 531.)

On the other hand, in my fatal case, there were salient features—extenuating circumstances, so to speak—which I gave in detail, so as to leave the reader to draw his own conclusions, but which Dr. Price has studiously ignored. He simply says my "patient died *thirty-three days* after the operation. If this method of estimating mortality is allowable for Dr. Goodell, why is it not for Schroeder?" But, other things being equal, it is not so much the *time* of death after *ovariectomy*, as the *mode* of death, which should determine its classification; and this was the point at issue, as Dr. Price very well knew, but which he evades. To quote from my published report (*Medical News*, March 21st,

1885, p. 316): My patient "had a rheumatic heart and the goggle-eyes of exophthalmic goitre. The operation was performed October 25th at the patient's home in the country," because she was too ill to come to me. "On account of the cardiac disease, ether was administered with great caution. The operation was an easy one; adhesions did not exist, and both ovaries were readily removed. I did not see her again, but I learned from Drs. Meschter and Gerhard, her physicians, that she died on November 27th, thirty-three days after the operation, from inflammatory rheumatism and her cardiac affection. 'She seemed to have perfectly recovered from the operation,'" as her physicians wrote. Now, all these facts were in black and white before Dr. Price's eyes. Yet "he has chosen for some reason, whatever it may be," to omit all mention of them. Is this fair? Is this generous?

Dr. Price says: "Dr. Goodell reproaches me for failing to notice the results of Martin, but passes my omission of Bantock, his distinguished friend, justly celebrated in abdominal surgery, without a wail." To this I reply, first, that Martin is the most successful ovariologist in Germany, and it would have been very unnatural for me not to have expressed surprise, indeed, great surprise, at the omission of his name from a review harping on my omissions. In the second place, I have not, in my original article, omitted all reference to Bantock, as Dr. Price implies, and, by the implication, displays a lamentable ignorance. Were he as well read in ovarian literature as one ought to be who undertakes to criticise ovarian statistics, he would have read between the lines that I, without mentioning Bantock's name, refer to him on page 315, where are given the results at the Samaritan Hospital of ovariectomies performed with and without antiseptic precautions.

As to Peruzzi's statistics, let me be more generous to Dr. Price than he is to me. He is right, *accidentally* right, and without his knowing it, while I am accidentally wrong. He quoted at second hand from Spencer Wells; I at second hand from the *British Medical Journal*. His second hand turned out to be right, and mine wrong. I have since consulted the original authority, viz., the *Raccoglitori Medico*, which Dr. Price should have done, and did not, and I find that the Italian surgeons lost sixty-three cases out of their first one hundred, and not sixty-one as I had stated.

Dr. Price's language about Keith's statistics is wonderfully obscure. I must confess that it passes my comprehension, as many of his expedients—I cannot call them arguments—do. In his

first paper, Dr. Price, with a high hand, took up the cudgels for Keith, claiming for him a mortality of two per cent instead of the three per cent with which I credited him. This he did by the grotesque blunder—his paper is full of them—of mistaking Keith's "last one hundred *cautery* operations" for his *last one hundred* operations. This error I exposed, and it is a very ugly one for a criticiser of ovarian statistics, for the author of the "Consideration" to be caught in. Like a cuttle-fish, he backs out of it in a cloud of ink, and, presto! now makes out for Keith "the astonishing result of a loss of only 3.57 per cent," instead of the "two per cent," for which he was stoutly contending in his former paper criticising my accuracy, and instead even of the three per cent which I conceded to Keith, and, which I still hold to be correct, for his last one hundred published cases. After this, well may Keith exclaim: Heaven save me from my friends!

Dr. Price still thinks that I ought to have referred to the younger Keith's "thirty-seven ovariectomies with only one death"—this, as I previously showed, should have been forty-four cases, with but one death, but "*the figures given*" in Dr. Price's remarkable "Consideration" of my statistics (to borrow again his own words and italics), "*do not fairly set forth the status of ovariectomy, if you please, as it exists to-day, and as one would of a right expect to find it detailed,*" especially in the very criticism on my alleged lack of fulness and accuracy. He says "To deprive him (the younger Keith) of mention and credit, simply because he has a father who himself has become famous in the field of abdominal surgery, does not appear reasonable." Now, why this misstatement? Why am I thus misrepresented? Is Dr. Price incapable of making a correct statement? What I did say was: "But why should I have given the younger Keith's statistics, when, as he himself frankly owns, 'that my deaths have been few, I attribute mainly to the fact that I have had the assistance and advice of Dr. Keith (the elder) in the cases'—a personal equation which cannot be eliminated." Now, had I performed my forty-four laparotomies of last year "with the assistance and advice of Dr. Keith (the elder)," which I should like much to have had—for perhaps my ovarian mortality would then have been less than seven per cent—is there the slightest doubt, the slightest shadow of a doubt, that Dr. Price would not have credited Dr. Keith, and not me, with any success that I might have had?

In my former letter I showed how cheaply he had criticised me, and stated that "the whole stock in trade of my reviewer

consists solely of Spencer Wells' last work on 'The Diagnosis and Treatment of Abdominal Tumors,' which was published in England in the spring of 1885, and republished in this country in the following summer. In this book are not to be found the statistics omitted by my reviewer, but from this book he has taken bodily, and without acknowledgment, all his telling statistics, even Peruzzi's and 'the younger Keith's thirty-seven ovariectomies'—statistics which, being embodied in personal communications to the distinguished author, appear nowhere else. This work I did not see until too late. Yet the lumped ovarian statistics of personal communications, however recent, cannot have the same weight as the older statistics, which I have given in my article, and which originally published every clue to the identity of the patient."

To these allegations Dr. Price replies: "First of all, *the book from which these statistics were taken* is well known to all the reading profession; second, Spencer Wells' name appears twice on the same page in connection with my statistics. *Verbum sat.*" To this I answer, firstly, that by Dr. Price's own acknowledgment, which I have taken the liberty of italicizing, *all* of his telling statistics come, as I have shown, very cheaply from *one* book—his sole stock in trade; secondly, that Wells' book is read only by specialists, and not, by any means, by "all the reading profession;" and, thirdly, that while "Spencer Wells' name appears twice on the same page in connection with my [his] statistics," it is simply and only "in connection with" Wells' last "series of two hundred and forty-seven cases," and with Peruzzi's statistics *solely of the first one hundred ovariectomies performed in Italy*. In neither instance is the title of Wells' book given, and in not a single instance is Wells referred to as Dr. Price's authority for his other statistics. This is not a "misstatement," Mr. Editor; your readers can verify it by turning to Dr. Price's unique "Consideration." So I shall still hold that from Wells' "book Dr. Price has taken bodily, and without acknowledgment, all his telling statistics."

But Dr. Price triumphantly asks: "Were these statistics accessible at the time of writing of the original article under discussion? This article appeared in February, 1886. Spencer Wells' book was published in the Spring of 1885, was republished in this city, and was for sale on Walnut Street, May 23d, 1885, nearly a year before Dr. Goodell's article on 'ovariotomy.' A long time surely for a production to be out of the hands of its author, and out of the reach of correction." In my former reply I said: "Had

my critic ever been invited, as I hope he will be some day, to write an article for so large a work as Dr. Pepper's *System of Medicine*, he would have known that the author parts with his manuscript many months before the work is published." My impression is that it was in July of 1885, possibly directly after my vacation in August, that I parted with my manuscript—at any rate, several months before the work was published. Now, I am free to confess that a less busy man than myself might perhaps have seen, and even read, Wells' book, during the short interval from May 23d to July or to September 1st, even with an included month's vacation, when one does not read medical works; but I did not see it; did Dr. Price? Remember that more than six months had elapsed from the date of the publication of Tait's and the younger Keith's last communication, and Tait's had appeared in the vast majority of medical journals. Yet Dr. Price had not learned, until I pointed it out to him, that these two gentlemen had greatly bettered the record with which he had credited, or rather discredited, them. Stones should not be thrown from glass houses.

The last argument which Dr. Price advances is one of ridicule. He applies the fable of the "fox and the grapes" to my objection "that the lumped ovarian statistics of personal communications, however recent, cannot have the same weight as the older statistics, which I have given in my article, and which originally published every clue to the identity of the patient." Yet it is this very "lumping" of cases, of which his "friend," Mr. Tait, with whose statistics Dr. Price, so dangerous to his friends, has played sad havoc, very justly complains in a letter to you, Mr. Editor, which directly precedes Dr. Price's. In it he contends that "nothing but condemnation can be meted out to the work of German surgeons," unless they publish their statistics "as is the habit and custom in England, where every case is set down in detail in its order, authenticated by name and age in such a way that there can be no possible dispute as to its occurrence or result."

In my former communication, I pointed out the limp arithmetic, the puerile blunders, the gross inaccuracies, the flagrant omissions, and the reckless misstatements which crop out in almost every paragraph of Dr. Price's brief criticism on the accuracy and fulness of my statistics of ovariectomy. For these qualities, his "Consideration" stands unrivalled in the annals of medical literature; it is, in fact, the champion "Consideration." From not one of these charges has he cleared himself. From the great

majority of them he has wisely not attempted to clear himself, and judgment, must, therefore, go by default. Yes, as stated and proved before, Dr. Price, who aspires to be a critic of ovarian statistics, is hardly the proper person for their compilation, and his extreme solicitude for their accuracy reminds me of the colloquy in the "Citizen of the World," between the debtor in jail and the soldier outside his prison window. They were discussing the chances of a French invasion. "For my part," cries the prisoner, "the greatest of my apprehensions is for our freedom. If the French should conquer, what would become of English liberty?" "It is not so much our liberty," says the soldier, ripping out a profane oath, "as our religion, that would suffer by such a change; ay, our religion, my lad!"

WILLIAM GOODELL.

[Each gentleman having been given a double opportunity to present his side of the case, this discussion, so far as this JOURNAL is concerned, is closed.—EDITOR.]

RUPTURE OF VAGINA DURING FIRST COITION.

MR. EDITOR:—In the August number of this JOURNAL, Dr. Joseph Price reports a case of recto-vaginal fistula from violence during first coition. On the next page he speaks of cases of rupture of the vagina from the same cause. I have met with such a case.

On the early morning of the 29th of June, 1885, I was called in haste to see Mrs. S., aged 22 years, of good form and well developed, of nervous temperament and sharp, black eye; and learned as follows: She was married the evening before, and in the act of coitus felt a severe, sharp pain, which was followed by a profuse hemorrhage, which alarmed herself and husband; and her mother in the same house was called, and I was sent for, with the request that I come as soon as possible.

On making an examination, I found the vagina full of clots, which were removed, when, to my astonishment, I found a rent or tear, which commenced at the entrance of the vaginal canal or continuation of the hymen and extended on the left of the median line backwards to and across Douglas' cul-de-sac upon the right side of the vagina about one-third.

The uterus and bladder were normal. She was still bleeding, frightened, pale, and faint. After washing the vagina with carbolic acid and warm water, I filled it with surgeon's cotton wet with the same solution, ordered brandy and perfect rest.

There was no further bleeding, and the recovery was complete in about three weeks.

Her husband informed me, a few days since, that she has had no trouble since, and is in good health.

Yours truly,

R. H. SABIN, M.D.

WEST TROY, N. Y., August 14th, 1886.

TRANSACTIONS OF THE AMERICAN GYNECOLOGICAL SOCIETY.

(A B S T R A C T .)

ELEVENTH ANNUAL MEETING.

HELD IN BALTIMORE, SEPTEMBER 21ST, 22D, AND 23D, 1886.

First Day—Morning Session.

THE Society met in the hall of the Johns Hopkins University, and was called to order at 10 o'clock by the President, DR. THAD. A. REAMY, of Cincinnati, O.

THE ADDRESS OF WELCOME

was delivered by DR. H. P. C. WILSON, of Baltimore.

The first paper was read by DR. H. P. C. WILSON, on

THE DIVISION OF THE CERVIX BACKWARDS IN SOME FORMS OF ANTEFLEXION OF THE UTERUS WITH DYSMENORRHEA AND STERILITY.

The cases in which he specially recommended this operation were the following:

First. Those of anteflexion of the uterus with an elongated cervix, where the body is bent upon the neck or the neck upon the body, or where they are bent upon each other, thus forming a more or less acute angle at the internal os.

Second. Those cases of not such acute flexion, but where the cervix is hyperplastic and indurated, as blue as a mulberry, and as dense as cartilage.

Third. Those cases where there is a hard, unyielding band encircling and constricting the internal os, through which the probe passes with difficulty, and gives to the hand the sensation as if passing over rough and dense cartilage, while the finger of the other hand in the sulcus between the body and the neck in front gains the impression of a strong cord tied around the uterus at the point of junction between the body and the neck.

In the typical cases of anteflexion of the uterus, where the knife should be used in preference to other remedies, all of the above lesions are co-existing; in nearly all such cases the patients are sterile.

No dense, unyielding cervix should be forced open. All accidents from cutting are the result of improper after-treatment. A clean cut into the cervix uteri and through the internal os, under proper antiseptic precautions, with proper after-treatment and exemption from meddlesome manipulation for a reasonable time, is no more dangerous than a similar cut elsewhere, and nothing to correspond to that from steel dilators or stems. It is much the most efficient, produces the least shock, and is much the most rational of all remedies for rectifying an anteфлекed uterus, such as described. He had never seen any good from any pessary for an anteфлекed uterus in the conditions described as indicating the operation.

The patient should be allowed to thoroughly recover from the operation, which usually requires one month, and she should then absent herself from all treatment for a month, except such as may be used to improve her general health. Under this plan, the intrauterine mucous membrane will improve, and will be ready to receive the local treatment which usually carries the patient on to a full restoration of health. The best application is Churchill's tincture of iodine, painted over the whole uterine surface two or three times a week, followed by pads of cotton soaked in glycerin. No patient should undergo intrauterine medication longer than one or two months at a time. He has performed the operation about four hundred times, and has never lost a patient whose death could be attributed to the operation.

DR. T. A. EMMET, of New York, said that fifteen or twenty years ago he would have been willing to indorse everything which Dr. Wilson had stated in his paper; for he had no doubt that he had done as much harm as any one by the operation, and that fact caused him to change his views. He thought that sterility and dysmenorrhea should be separated with reference to treatment, and he regarded mechanical dysmenorrhea as a myth. Two conditions of flexion also must be recognized. There is a flexure of the neck which is congenital, where also the vagina has not been developed properly. In these cases there is an abnormal development of the cervix. This condition will produce sterility, and also dysmenorrhea to a certain extent.

There is also a condition of flexure of the body of the uterus, according to his own experience, always due to pelvic peritonitis or some other trouble outside of the uterus. Sterility occurs with this condition, but no operative procedure will relieve it. In the first class of cases, there is dysmenorrhea before menstruation, which is relieved as soon as the flow takes place. In the second class of cases, the woman does not suffer pain until menstruation has been established, and it continues and increases to the end of menstruation, and often after menstruation has ceased. In these cases, there are always the remains of an inflammatory process.

It is in the first class of cases only that he would operate for

the relief of sterility, but not for the relief of dysmenorrhea. Occasionally cases of the second class are relieved, but it is not by opening the canal, for the trouble is outside of the uterus. He never operates for flexure above the vaginal junction until all pelvic inflammations have subsided; no matter how open the canal is, the patient will not be relieved while these outside conditions remain.

DR. JAMES R. CHADWICK, of Boston, recognized only one form of flexion, which does not distinctly belong to either the cervix or the body, and which he had regarded as always congenital; that is to say, persistence of the infantile shape of the uterus. Consequently he would consider that, in such cases of congenital antelexion, there was a mechanical obstruction, for there was a lack of development of the genital organs. His aim had been, not so much to attack the internal os and correct the flexion, as to enlarge the external os, and in a certain proportion of these cases impregnation had followed. He had limited the cases very much to those in which the uterus and vagina were not notably undeveloped in other respects, and had principally aimed to enlarge the external os. He thought the operation should be restricted to those cases where the uterus is pretty well developed in other respects, except having a small external os.

DR. W. H. BAKER, of Boston, thought that Dr. Wilson should be congratulated for two reasons: first, on the success that had attended his operations, and, second, his success showed very conclusively the difference in experience which gynecologists might have with the operation. It was not surprising that he was led to adopt the operation, from the fact that he saw it performed so frequently in the Woman's Hospital, and certainly the primary operation in the hands of Dr. Sims, in the cases which he saw, gave very gratifying results at the end of one or two months. That is to say, the first operation was likely to be accompanied by great relief from dysmenorrhea. But on hearing from a few cases afterward, he found that there were comparatively few in which the good result was retained, and thus he was led to perform the operation less and less. It seemed to him that if the successes had been as great as was hoped, the operation would have been persisted in. But it was found that perhaps less serious means would accomplish as much, if not more than division of the cervix.

The discussion was continued by DR. FORDYCE BARKER, of New York, who gave an account of his introduction of Simpson's uterotome into this country; by DR. JOHN SCOTT, of San Francisco, who had found that the early results of the operation were satisfactory, but disappointing with reference to the ultimate results; by DR. W. T. HOWARD, of Baltimore, whose experience did not enable him to agree entirely with Dr. Emmet, nor with Dr. Wilson or any of the gentlemen who had spoken. He had performed Dr. Sims' operation of antero-posterior incision in some instances with excellent results. He had also resorted to the bilateral in-

cision when he had thought it indicated, and with equally good results in affording relief from the dysmenorrhea. In one case in which the patient had been troubled with dysmenorrhea from the beginning of menstruation, he found acute retroversion of the uterus with stenosis of the os internum. He restored the uterus to position, dilated the internal os, and the patient soon became pregnant, and after the birth of her child never suffered from dysmenorrhea. The patient suffered from the typical form of dysmenorrhea described as neuralgic, and he could not go so far as J. Matthews Duncan had and say that the dysmenorrhea described as neuralgic means nothing more than garrulity.

He had performed the operation of division of the cervix very much less frequently than had Dr. Wilson, but where the intravaginal portion of the cervix is very long, where the vagina is reflected high up posteriorly, to a slight extent anteriorly, producing a small anterior and a large posterior *cul-de-sac*, he had tried all forms of dilatation, and the result had been that the patient had not recovered, and he had finally performed posterior incision of the cervix with great benefit.

The discussion was closed by DR. WILSON, who said that he had not heard anything to convince him that in properly selected cases division of the cervix was not the best method of treatment which could be employed for the patient.

DR. R. STANSBURY SUTTON, of Pittsburg, then read a paper entitled:

ANOTHER MODIFICATION OF EMMET'S CERVIX OPERATION.

At the last annual meeting of the Society, Dr. Sutton directed attention to a modification of Dr. Emmet's operation which had for its object the preservation of the cervix in cases in which a typical operation was not possible. In order to remove the greatest possible amount of tissue and yet restore the cervix, he resorted to the following original modification of the typical operation in which the latter could not be performed on account of the density and enlargement of the cervix. The case was reported. With a pair of strong scissors, one blade of which was thrust deeply into the cervical canal, he divided the cervix on both sides to a depth equal to, and in a straight line through the centre of the cervical canal; its depth was the thickness of the layer of condensed tissue. A second incision of the same depth was made in a line parallel and to the *left* of the first incision in the upper lip, and a third incision was made parallel to the line of the first incision, to the *right* in the lower lip. The proximal extremity of each of the two latter incisions was curved with a view to preserve the contour of the future os cervicis. A fourth incision was made around the curved margin of both lips. These incisions marked out the areas to be denuded and those not to be denuded. The dense tissue was cut away with a knife and scissors curved on the flat. The crest of tissue remaining on one lip, covered with what was once mucous membrane, passed by and

lay parallel with a similar crest on the other lip. These crests were about five millimetres wide and ten millimetres high, and were surmounted with what remained of the mucous membrane in their entire length. When they were placed side by side, it was easy to unite the lips with sutures not liable to cut out.

DR. EMMET, of New York, said that he was very much pleased with the ingenuity of the procedure, a device which practice only would determine whether it could be adopted in a large number of cases. But, as a rule, he believed it to be better surgery, in a cervix which was in this cystic condition, and presented the appearance of an old tonsil, to amputate a portion of it, and cover the stump with vaginal tissue.

Dr. Sutton's procedure was certainly one of the most ingenious which he had known, but ingenuity and practice did not always work together. He should think there would be fear that union would not take place at the deep angle.

The paper was further discussed by Dr. G. J. Engelmann, of St. Louis, Dr. W. H. Baker, of Boston, Dr. A. P. Dudley, of New York, Dr. James R. Chadwick, of Boston, and the discussion was closed by Dr. Sutton.

The next paper was by DR. ELLWOOD WILSON, of Philadelphia, entitled:

NOTES OF THE TREATMENT OF RECENT LACERATION OF THE CERVIX UTERI.

It was read by the Secretary, DR. JOSEPH TABER JOHNSON, in the absence of Dr. Wilson, who was summoned by telegraph to return home.

The author of the paper, in confirmation of the statement that recent laceration of the cervix very frequently may be cured by the application of nitrate of silver in strong solution, submitted the treatment of six cases with the results. Failure to discover laceration of the cervix after labor, and neglect to properly treat such a condition, entails oftentimes a great deal of suffering upon the woman, and brings a well-merited condemnation upon the physician. If at the completion of labor the physician carefully examines his patient, he will generally recognize the laceration if one has occurred, but he may not always be able to do so. The physician, however, should not be content with an examination immediately following the completion of labor, but should examine again on the tenth or twelfth day, when the process of involution of the uterus will be advanced so far that the tear, if any be present, can hardly fail to be readily detected. If the fissure of the cervix is detected immediately after labor, the best plan is to douche the vagina carefully with mercuric chloride solution, one to three thousand, at a temperature of 100° F., and to introduce an iodoform bacillum, prepared after the formula recommended by Dr. Lusk, and used by Braun and Spaeth, of Vienna. The bacillum should be perfectly smooth, not more than one and a half inches in length. The vagina should be irrigated every

third day with a corrosive sublimate solution, and a fresh bacillum introduced.

The plan to be pursued in the subsequent management of these early discovered tears is the same as that which he employs in rents of the cervix discovered within three weeks of their occurrence, and is as follows: carefully cleanse the surface of the laceration, thoroughly dry it, and then paint the whole surface with a solution of nitrate of silver, one drachm to an ounce of water, care being taken that the bottom of the rent is reached. This application is made once every four or five days until cicatrization is thoroughly established, usually three to five applications being necessary. In bad cases this plan may not be successful, but in every case in which he had tried it the result had been all that he could wish for. His attention was drawn to this method of treatment by an article by Dr. Bradford Brown, in the *Coll. and Clin. Record*, November, 1885. The Doctor, however, had only used it in chronic cases. Dr. Wilson had not found it to be successful in chronic cases, and confined its use to those which were recent. Personally he felt that he had performed trachelorrhaphy when the patients might have been cured by this simple method.

DR. FORDYCE BARKER, of New York, had listened to the paper with a great deal of interest, as it seemed to him to be eminently sound and practical in many respects, and the inferences to be derived from it were much to be preferred to the law laid down by some a few years ago, that always immediately after confinement the woman should be carefully examined to see whether there was laceration, and whether it should be closed by stitches. He had never had a single patient operated upon, or one that required an immediate operation, nor had he had a single patient who required a secondary operation, until one within the last year, and he therefore felt that the law which some had laid down was altogether too arbitrary, and one which should be followed with great caution. He could say that there were cases in which the proper course would be an immediate operation, but he had not met with them in his own practice.

DR. T. A. EMMET, of New York, said that he believed that the only condition which demanded interference immediately after labor was the occurrence of hemorrhage. It was something remarkable what nature would do in the way of restoring damage done to these parts, providing septic infection is not established.

The paper was further discussed by DR. JOHN SCOTT, of San Francisco, who said that he had never operated upon the cervix immediately after labor except in one case, and then it was with the greatest difficulty that he could introduce stitches without thaving them cut through the tissue completely. Luckily union took place in both the cervix and perineum, and he mentioned the case simply to illustrate the readiness with which a tissue torn or lacerated was cut through by the stitches, and the great vascularity which was sometimes present in those cases.

The discussion was closed by Dr. Barker.

First Day—Afternoon Session.

DR. THOMAS ADDIS EMMET, of New York, read a paper entitled:

PELVIC INFLAMMATIONS; CELLULITIS VERSUS PERITONITIS.

What is pelvic inflammation? Is it a cellulitis, a pelvic peritonitis, or do we have the two combined? Under what circumstances do we find phlebitis and lymphangitis accompanying these conditions?

The term cellulitis in this country has come, by almost common consent, to signify pelvic inflammation without reference to the special form. But its origin is generally supposed to have been in the connective tissue. Inflammation of the connective tissue between the rectum and vagina behind; in front of the uterus, bladder, and ureters, etc., is generally accompanied by phlebitis, and is a frequent consequence of the pressure made during childbirth. But it is a matter of common observation that this form of pelvic inflammation tends rapidly to resolution, and the tissues soon regain a healthy state if septic poisoning does not take place. With the introduction of septic matter from any source, the lymphatics become inflamed and the peritoneum is rapidly involved.

There has been a tendency shown in recent discussions on this subject to undervalue the importance of apparently limited pelvic inflammations. His own convictions, based on a large experience, is that the more circumscribed a pelvic inflammation seems to be, provided it is not a pure cellulitis, the more serious will be the consequences if its existence be practically ignored. An apparently limited one is to be the more feared from the fact that it is almost always situated in the peritoneum, and is generally the remains of a more extended inflammation.

It has been held that, as a rule, little evidence of previous attacks of cellulitis can be found when operating for the removal of diseased Fallopian tubes, and his experience confirmed the accuracy of this observation. Yet it had cost him much thought to explain the existing condition. During the last winter he witnessed an operation performed by Prof. Polk, in a case in which he had expressed the opinion previously that the condition was one of thickening and shortening of the left broad ligament from an old cellulitis. At the operation, to his surprise no broad ligament was found, and the enlarged tube lay directly against the side of the vagina. This was so marked an instance that the explanation presented itself to him as soon as he was able to give the matter due thought. And he then recalled the fable of the two knights meeting at the cross road where a shield was suspended which was of gold on one side and silver on the other. They disputed as to the material of which it was made. Each was right from his own standpoint, and all difficulty could have been avoided if either had looked upon the other side. He mentioned this fable as applicable to the recent

discussions on the relative importance of cellulitis and pelvic peritonitis as factors in the diseases of women.

The question had been raised often as to the existence of pelvic cellulitis in these cases, since its products found after death are so few in comparison with those recognized as connected with inflammation of the peritoneum. The following explanation was offered: If the inflammation stops short of a pelvic abscess after it has entirely subsided, nothing can be detected by the finger in the vagina or rectum but a few attenuated bands running in different directions, and these also disappear in time. By degrees the surrounding connective tissue which has been involved is gradually drawn together by its own elasticity to fill the space which would otherwise remain unoccupied. The inflammation having been confined to the cellular tissue, nothing remains finally to mark the site of even an extensive inflammation but a small dense scar or line. After this redistribution of the cellular tissue, the vagina or rectum slowly returns to its former shape and size as soon as the natural elasticity of the pelvic tissue can be again uniformly exercised.

On the other hand, when an extensive inflammation has existed in the connective tissue between the folds of the broad ligament, it must necessarily involve the peritoneum covering it. In time this connective tissue also disappears as a result of the inflammatory action, but it cannot be replaced as takes place elsewhere, in consequence of its isolated position in relation to the cellular tissue in the other parts of the pelvis. As a result of inflammation of the peritoneum covering this tissue, adhesion of the opposing surfaces occurs, and, by the contraction thus exerted, the broad ligament is flattened out, so that Douglas' *cul-de-sac* disappears on that side. The effect of this change is, that the vaginal wall, in the neighborhood of the site of the inflammation, must be raised up and ballooned out. The same traction would also draw the tube somewhat downward until it and the side of the vagina would lie in contact. This, then, is the condition found by the surgeon when he operates for the removal of the diseased Fallopian tube. If this operation is correct, it would prove that connective tissue, without reference to its situation in the body, never regains its integrity after having been once inflamed. According to the degree and extent of the inflammation must the tissue involved be absorbed or broken down into an abscess before the parts can be restored to health. If the surrounding connective tissue can supply the loss, the part will gradually return to its former shape, and the injury will in time be inappreciable. On the other hand, if the inflammation has been more extended, so that the loss cannot be replaced, or if the tissues break down into an abscess, nature can only restore the injury by adhesive inflammation of all the parts inflamed. We have, then, according to the extent of the injury, either a small pit-like depression, or a deformity due to traction as the tissues shrink together. When cicatricial contraction is thus exerted

after a surface has healed by granulation, this contraction is due not so much to the presence of a scar of the tissues as to the absence of counter-traction from the surrounding connective tissue which was destroyed before the scar was formed.

In a limited number of cases, no permanent benefit seems to result from local treatment, and the operation for the removal of the tubes and ovaries has to be resorted to eventually. Fortunately, it is not the rule, at least among the well-to-do. In public hospitals, we see a number of poor women suffering from some form of pelvic disease, and who have lost apparently all their recuperative powers. Under those circumstances, and in the uncertainty of practical gain from local treatment, we can seriously consider the advisability of the operation after having gained the consent of the patient by a truthful representation of her condition. But he was convinced that the time has been reached when we should enter a protest, and that the profession at large should demand the recognition of some responsibility connected with the indiscriminate manner in which this operation is being done all over the country and by any one. He believed that the operation for the removal of the tubes and ovaries should be done only as a last resort, and only after every other means has failed. For the good name of the profession, it should be recognized that it requires an expert to determine when this operation should be done, and that even more experience still is required to perform it with safety and with benefit. The operation is practised too often even by those who have the smallest death rate, and he predicted that five years would not pass before it would be necessary to offer an apology when its performance is suggested. The operation, doubtless, fills an important place in gynecological surgery, but its usefulness must be more clearly defined, and its practice greatly restricted, or the good name of the profession will surely suffer in the future.

DR. ROBERT BATTEY, of Rome, Ga., believed that inflammation of the pelvic cellular tissue depended primarily to a very great extent upon disease of the ovaries; that a pelvic cellulitis which gives rise to so much trouble is, in a large proportion of cases, secondary, and not primary. Thus, Dr. Emmet was viewing one side of the shield, and he the other, and he wished very much that both could look upon the same side of the shield, for he had great admiration for Dr. Emmet's exceeding honesty, honor, and candor. If gonorrheal cases were thrown out of consideration, to which Dr. Emmet had also alluded, Dr. Battey believed that the primary disease which induced inflammation of the tubes rested not in the cellular tissue, but in the ovaries.

With reference to the frequency with which operations are done at the present time for the removal of the ovaries, he must confess that he was largely in sympathy with the remarks made by Dr. Emmet. He did not think that every case of organic disease of the ovaries required extirpation. He had in mind a case in which he advised extirpation of the ovary several years ago on

account of palpable organic disease. The operation, however, was not performed. He kept the patient under constant treatment, and her general health very much improved, the tenderness greatly subsided, but the enlargement remained, and since that time the patient had been married and had borne two children, and is in a thoroughly comfortable state of health. He had seen other similar cases. But, on the other hand, there were cases in which he believed he did good service when he sacrificed the ovaries. The circumstances under which he would remove the ovaries were: First, the general health of the patient must be broken down, destroyed, and there must be no reasonable expectation of restoring health by any other known means, and there must also be a reasonable prospect of restoration of health by loss of the ovaries. In the second place, it must appear that there is no other practicable remedy, and in the third place, it must appear probable that it must eventuate in a cure.

DR. R. STANSBURY SUTTON, of Pittsburg, believed that when an ovary is diseased and cannot be cured by ordinary means, and that when it involves the health of the patient and places her in a condition in which she is prevented from discharging the ordinary duties of life and renders her life miserable, it should be extirpated. As a diseased organ, the ovary was not entitled to any more respect than any other organ of the body. It mattered not to him whether the inflammation began in one place or in another, if the Fallopian tube was full of pus or an ovary was diseased to such an extent as to render married life a burden, or the life of a single woman a burden, he regarded it as his duty as a surgeon to remove that diseased ovary and tube as he would remove a diseased eyeball. He agreed, however, with the gentleman who said that this operation was being abused. It was not because it was being done too much by competent men, but too much by incompetent men. Put the blame where it belongs, not upon the operation, but upon those who are doing the operation.

DR. S. C. BUSEY, of Washington, had supposed that Dr. Emmet's paper was a contribution toward determining whether in pelvic inflammations a peritonitis or a cellulitis is the primary affection. He had no doubt that either the one or the other was a primary affection, but he did not hold to any exclusive view. And it occurred to him that the differences in opinion could be reconciled most readily by reference to the histological anatomy of the tissue. If this was done, there would be less disagreement in pathology. All these tissues are closely allied by histologists who regarded the cellular tissue as a vast lymphatic sac and the peritoneum as normally a dilated lymphatic sac. So far as distinguishing these affections was concerned, they could be more easily classified under the term pelvic lymphangitis, varying in different cases.

With regard to operative procedures, he believed, with most of those who had spoken, that too many operations had been performed, and perhaps too many operators had undertaken it. He

thought the time, however, had come when diagnosis should be based upon other data than the general appearance of the patient, and upon something more than merely social or ethical considerations.

DR. M. D. MANN, of Buffalo, thought it of very great importance, to determine whether the cases which were so frequently seen with hardened tissue behind the uterus, etc., were due to thickening and induration of the connective tissue, or to adhesions or thickening of the peritoneum with involvement of the ovaries and tubes, etc., for therapeutics must depend upon diagnosis, and diagnosis must depend upon pathology. After labor or miscarriage, there is probably a true cellulitis. And in other cases there is a condition resembling to a great extent this condition of true cellulitis, but absorption does not take place in the same manner, and we go on treating that for weeks, months, perhaps for years without much effect. If these cases are peritonitis, that is the result we should expect, because we do not expect adhesions to be affected by this mode of treatment. Now, the question of removing the offending organs, provided they have created sufficient difficulty to seriously compromise the woman's general health, must be taken into consideration. For his part he did not believe that cellulitis was as common as had been taught. He had operated several times with the result of bringing about a perfect cure in cases where all the symptoms were apparently on one side of the pelvis. And he thought it was objectionable to remove both ovaries when only one organ was diseased.

The paper was further discussed by Dr. H. P. C. Wilson, of Baltimore.

DR. JOHN C. REEVE, of Dayton, Ohio, then read a paper on

ABDOMINAL SECTION FOR CHRONIC SUPPURATIVE PERITONITIS.

The recent great advances in abdominal surgery, and especially the treatment of abdominal and pelvic inflammation by operation, justified the author of the paper in presenting the following case:

Annie, 19 years of age, living as if married, always healthy. and without accurate account of the history of the earlier part of her illness, gave a history of repeated attacks of pain and tenderness in the abdomen, accompanied with fever. When Dr. Reeve first saw her, she presented all the symptoms of chronic peritonitis. Not long afterward, she began to pass pus by the rectum and with the stools. That continued daily, or several times daily, until the operation. It was not a case of pelvic, but of abdominal disease. Finding her condition becoming so deplorable, and all means of relief having failed, Dr. Reeve offered her all the chance there might be in laparotomy, which was declined. Nearly two months afterward, the patient asked for the operation. Examination revealed great tenderness and great hardness of the abdomen over the lower portion. The hardness extended above the umbilicus and with ill-defined limits, but most marked in the left iliac re-

gion. Internally the cervix uteri was normal and movable, but the body of the uterus was fixed. No definite hardness could be felt in the vaginal roof upon either side or in any direction. Careful examination did not reveal any opening into the rectum. The patient was extremely emaciated.

The details of the operation were then described, the result of which was to find a collection of pus in the left side of the abdomen. The walls of the cavity were so dense and thick that it was impossible to bring them up and stitch them to the edges of the incision, and the adhesions of the intestines were extensive and firm. At the end of a week, the patient presented an open cavity in the abdominal wall below the umbilicus over three inches long by about one inch wide. The bowels moved naturally almost every day, pus never appeared in the stools after the operation. On the fourteenth day quite a large quantity of fecal matter came through the wound, and this has occurred more or less frequently since.

As bearing upon operative treatment in abdominal inflammation, Dr. Reeve thought that the case spoke strongly in its favor. The great diminution of suppurative discharge consequent upon cleaning out its source, the immediate and entire cessation of discharge of pus by the rectum, the prompt and decided improvement in the appetite and digestion of the patient, all indicated that under more favorable circumstances the case would have been a brilliant success.

Upon one important point relating to abdominal section for suppurative peritonitis, the evidence furnished by the case may seem far from satisfactory. He referred, of course, to the question of fecal fistula. It has been most positively asserted by Dr. Henry T. Byford that a fecal fistula is an inevitable consequence of laparotomy under these conditions. Should the fistula in this case prove permanent, Dr. Reeve could not consent to the case being adduced in support of this doctrine. He would attribute the result rather to the special conditions present than to the effect of the general rule. These special conditions were extreme emaciation, lessened nutrition, the change in the character of the tissues involved, preventing the approximation of the edges of the wound. But the question seems well worthy of consideration, is a fecal fistula an inevitable result and the necessary consequence of laparotomy for pelvic and abdominal inflammation when pus has made a way of escape by the rectum?

The paper was discussed by Dr. Scott, of San Francisco, Dr. Goodell, of Philadelphia, Dr. C. C. Lee, of New York, who thought that in certain conditions of suppurative peritonitis laparotomy was justifiable and the procedure to be adopted; Dr. Chadwick, of Boston, Dr. Sutton, of Pittsburg, and Dr. Joseph Taber Johnson, of Washington. The discussion was closed by Dr. Reeve.

Second Day—Morning Session.

The Secretary read a paper on

ERGOT AFTER LABOR,

written by DR. JOHN GOODMAN, of Louisville, Kentucky, who said that the custom had become very general to administer a dose of ergot immediately after the completion of labor. The purposes for which ergot is administered are, first, to prevent after-pains; second, to promote involution; and third, to prevent post-partum hemorrhage.

If the agent was incapable of doing harm, and there was evidence that it would accomplish either of these purposes, its use should be continued. But if it was in any way deleterious, we must either reject or restrict its use. The author of the paper related two cases in which tetanic spasm of the uterus was produced by small doses of ergot, and in one of which septicemia developed. These cases were extreme ones, but he had seen similar ones in which the deleterious effect of the drug was less marked. With reference to ergot hastening involution, the writer of the paper regarded it as an absurdity, as involution was a natural process and a certain length of time was required for its accomplishment. The worst case of involution which he had seen was one in which ergot was given early in the second stage. That in ergot we had an agent which was capable of averting or arresting after-pains could not be doubted, but it does so by setting up an action of the muscles which is not physiological. The only benefit of ergot after labor is in the prevention of hemorrhage, but its use is attended by dangers so great that it should not be administered indiscriminately. In his opinion, it should be laid down as an invariable law never to give ergot at the close of the third stage unless the danger of hemorrhage was imminent, and then hypodermic injections of ergotin was the preferable method.

DR. BARKER, of New York, regarded the paper as the most original one he had ever listened to in the Society, for the reason that it was original in its peculiar manner of reasoning.

The PRESIDENT said that he had prepared a paper in which, not so well said or radically put as in the paper written by Dr. Goodman, he had entered his protest against the routine practice of administering ergot after the third stage of labor. He had carefully watched the action of the drug at the bedside, and his reflections would aid in establishing what Dr. Goodman had claimed for it. As to the primary physiological influence by which it reaches its conclusions in its actions on the unstriated fibre in the uterus, he would not detain the Society to discuss. The contraction which was produced was not like the contraction which takes place during the process of labor. The natural state of the circulation in the uterine wall after the placenta has been delivered cannot be reached if the normal intermittent contraction of the uterine muscle is made persistent.

Ergot not only closes up the uterus, but likewise interferes with the circulation within the uterus, and therefore interferes with the process of involution and must lay the foundation for sepsis. He was perfectly certain that within eight years at least the practice of obstetrics would be revolutionized in this direction, and he was perfectly certain in his own mind, although it might seem like an extravagant statement, that more evil is being done to-day by this item in obstetric practice throughout the country than by any other one thing.

DR. GOODELL, of Philadelphia, said he did not suppose that every woman who had given birth to a child needed ergot, but that it was not always known which were the women who did need it, and he had been in the habit of giving it in the twenty-five hundred cases of labor which he had attended, and had not seen that any harm had been done by it. He had formerly given it for two purposes; first, to prevent hemorrhage, and, second, to prevent absorption of septic matter by setting up firm contraction. However, since the days of antisepsis, since the use of bi-chloride-of-mercury solutions, which should be used in private practice as well as in public practice, he did not think that ergot played any rôle at all with reference to the prevention of septicemia. But he did think it was important with reference to post-partum hemorrhage, and did not think it did the injury and harm which the President thought it was capable of doing. At the same time he was willing to admit that it was not every case which needed ergot, but must claim that of the many cases of labor which he had attended he did not know of one in which injury had been done by its administration.

DR. PARVIN, of Philadelphia, believed that small doses of ergot simply increased the normal uterine contractions; that it might with propriety be administered prior to emptying the uterus, as had been proven so well by Elwood Wilson, of Philadelphia, and Murphy, of England, who were the two men who gave ergot and who treated placenta previa most successfully; that it assisted in obtaining normal uterine contraction which prevented hemorrhage and promoted involution. He was unable to see how a diminished blood supply could prevent uterine involution, but, on the other hand, involution was promoted by this condition.

The discussion was continued by Dr. Engelmann, of St. Louis, Dr. Skene, of Brooklyn, and Dr. P. C. Williams, of Baltimore.

THE PRESIDENT'S ANNUAL ADDRESS.

DR. THAD. A. REAMY, of Cincinnati, President, then delivered his address.

The "*lex non scripta*" of this Society not only demands an annual address from its President, but the same authority, as preceded in former addresses, makes it customary for these inaugural words to be to some extent retrospective and advisory.

Having spoken of the growth and flattering prospects of the Society, the President spoke of its great loss, occasioned by the

death of Dr. Albert Holmes Smith, the sad event occurring at his residence in Philadelphia, December 14th, 1885. A Fellow who knew Dr. Smith intimately, one whose pen can touch with eloquence and poetry even a subject so sad as death, will furnish for the Transactions an obituary sketch.

The President then directed attention to several current topics, which seemed to him to be worthy of special consideration. It may be said that the time during which this Society has been in existence is the *abdominal epoch* of the surgical age in gynecology. It has seen abdominal section so developed and perfected that the brilliant achievements of skilful operators have far exceeded the most sanguine expectations of ten years ago. This is not only true of all fields of abdominal section, but especially so of ovariectomy, the pioneer operation in this realm.

It would seem that nothing further is to be desired in ovariectomy, when we hear the astonishing report of one hundred and thirty-nine successive operations without a death! Such success as this challenges our admiration, and stimulates our emulation. It brightens the lustre of the star that stands over Danville, where ovariectomy was cradled.

It makes Birmingham the Mecca for ambitious gynecological pilgrims from all the surgical world.

Phenomenal success, however, is not confined to Birmingham, Edinburgh, or London. Skilful hands are busy everywhere, and remarkable results are reported from all quarters.

The statistics of American operators are constantly improving, in some instances reaching a high standard, although they have not yet reached the high mark attained abroad. The exact reasons for this discrepancy await demonstration. It is probable that the explanation will be found largely in climatic influences and constitutional conditions. Again it is unquestionably true that in our own country the operation is essayed by a relatively larger number of operators than abroad.

We have already seen that surgical results are eminently satisfactory so far as relates to cystic diseases of the ovary, which imperils life. But is the *operation of removing the ovaries* for supposed "beginning cystic degeneration," "cirrhosis," "catarrhal salpingitis," "chronic catarrh of the tubes," "stenosis," "congestion," "enlargement," always justifiable? I trow not. Have not the glowing reports of such cases and the cures wrought, together with the facility of the operation and its wonderful immunity from danger to life, led to the extirpation of many a sinless ovary? How often in our experience have we met cases with the constant pelvic pain and its various reflexes, with a tender ovary slightly displaced, or some tortuous body about the uterine fundus which we thought was the "congested," "hypertrophied," or dilated tubes; in short, having a clinical history and physical aspect incapable of differentiation from those cases from which we hear of ovaries being removed, and yet we have seen them cured by a patient recourse to diet, massage, electricity,

vaginal irrigations, medication of the vaginal vault and cervix, rest of body and mind, postural treatment, etc.

Such occurrences are so very frequent in our every-day practice as to be painfully suggestive of too much freedom with the ovary, considering our want of familiarity with its minor pathological changes. The truth of this remark is in no way invalidated because of attempts in high quarters to settle the whole question on clinical testimony exclusively.

He greatly fears that some ingenious statistical cynic would some day compute the years of human life lost to the race, by this destruction of ovaries whose functional activity is yet unabated, and whose structure yet bears many possibilities for population.

There has been entirely too much constructive pathology written upon the ovary. Much of the pathology has, he feared, been created to order to justify the removal of functionally active ovaries after they have been extirpated. We need the "fiat lux" of a practical pathology, sustained by the most extensive comparative investigation upon healthy and unhealthy ovaries. The recent praiseworthy practice of Schroeder in leaving the undiseased portion of the ovary when possible, in the extirpation of ovarian cysts, is a movement in the right direction, and in every case of removal of ovary and tubes, and only one ovary should be extirpated unless disease of both be detected on exposure.

Again, many of the remarkable cures reported after this operation must be taken "cum grano salis," until such time has passed as will preclude the possibility of a relapse, or at least render it improbable. That time will change the aspect of some reported cures, is not wholly speculative.

In all the foregoing, let not one word be so interpreted as to detract one iota from the boon conferred upon suffering women by the performance of spaying in properly selected cases.

Alexander's operation has been performed in all countries combined less than one hundred and fifty times. It unquestionably rests upon sound principles. Its utility, however, should be tested with great caution and conservatism. Moreover, even in the hands of experts the operation has in quite a number of instances signally failed.

Diagnosis has made almost no progress since the beginning of the present surgical era.

The scarcity of literature and investigation upon this subject is greatly to be deprecated. We should expect from this source a powerful adjuvant in combating the surgical tendency of the times.

The use of *electricity* as a therapeutic agent in gynecology is at last well established, and in this country, no one has done more to popularize it than a distinguished Fellow of this Society in the pages of his own journal.

Its use in *extrauterine pregnancy* is at last getting the attention it merits. This treatment was first employed, and its value

demonstrated in this country by Dr. J. G. Allen, of Philadelphia.

Medicinal treatment for *extensive fibroid disease of the uterus* has been tried faithfully and abundantly, and in the main unsatisfactorily. Electricity has probably a more general value than any therapeutic treatment yet applied to this condition, and its employment is becoming more and more popular.

Hysterectomy had recently received a most wonderful impetus in the remarkable results obtained by Keith and others, particularly in Scotland and England. Keith reports a series of cases with a mortality of only eight per cent.

Schroeder, whose statistics are probably the most favorable offered by any large operator in continental Europe, has had a mortality of about twenty-nine per cent. The late Dr. Thos. Wood, of Cincinnati, made the operation seven times with two deaths—a mortality of thirty per cent. Dr. Reamy did the operation five times with two deaths—a mortality of forty per cent.

“Does a mortality of eight per cent justify an operation for a disease that, as a rule, has only a limited active life, and that only for a time, though of itself it rarely kills?” (Keith.) It is probable that in all fibro-cystic tumors of the uterus, as well as in all suppurating ones, hysterectomy offers the only hope.

The past decade has been especially fruitful in measures for preventing, and methods for overcoming *severe dystocia*.

Our chief reliance as an alternative to *craniotomy*, at least in cases of pelvic deformity where the conjugata vera is below two and one-half inches, is to be placed in the Säger-Leopold operation; and what more convincing assurance need we offer than the fact that during the year ending with June, 1886, there were twenty Säger operations in Europe, with a loss of only two women.

It seemed to him probable that the practice of deliberate destruction of the infant is being gradually encompassed about by a constantly narrowing circle of limitations, and it requires neither a seer's vision nor the spirit of prophecy to see in the near future this circle reduced to a vanishing point, to see a full fruition to the hope that *craniotomy* shall be abolished, and the instruments devised for its perpetration relegated as curiosities to museum shelves.

Current opinion with clinicians of largest experience recognizes the probable truth that *epithelioma of the uterine cervix* is primarily a local disease, and that ordinarily the cells do not invade the surrounding tissue for a long time after the manifestation.

After a careful clinical study of this subject, in a large number of cases, Dr. Reamy unequivocally committed himself to the belief that the cervical traumata of parturition strongly predispose to the development of epithelioma. In six cases within the last three years, he had removed the neoplasm while it was yet confined to the mucous membrane covering the indurated connective tissue resulting from the laceration.

The method of operating, be it thorough, is by no means so important as time.

The President concluded his address with some observations on the *uterine curette*.

With an increased experience, he was bound to say that dangers which cannot be foreseen sometimes attend its employment. Nevertheless, he employed it almost daily, and fully concurred in the general belief that it is the most efficient means we possess for controlling intractable pathological uterine hemorrhage.

It is frequently employed immediately upon the removal of tents where dilatation seemed necessary, and against such practice he wished to enter an emphatic protest. He closed by relating the history of a somewhat peculiar case in which the blunt copper-wire curette, very similar to, but not the exact pattern of Thomas' instrument, passed completely through the anterior wall of the uterus into the abdominal cavity as high as the umbilicus. The patient recovered without peritonitis.

DR. FORDYCE BARKER, of New York, then read a paper on

THE INFLUENCE OF MATERNAL IMPRESSIONS ON THE FETUS.

The belief that maternal impressions may affect the nutrition and development of the fetus in utero has existed from the earliest periods of which there are any records. The oldest evidence of this belief is found in Chapter xxx. of the book of Genesis, in an account of a business transaction between Jacob and his father-in-law Laban, in which this belief prompted Jacob to adopt a method which, in recent times, has become very common in Wall street, that of doubling his capital "by watering the stock."

Five columns of fine print in the catalogue of the Surgeon-General's library at Washington demonstrate the copiousness of medical literature on this topic and how largely it has occupied the medical mind. That maternal impressions may affect the form, development, and future character of the fetus is very generally accepted as true by women in all ages, and by men so far as they have any idea on the subject, without doubt.

Three of the most distinguished writers of fiction in modern times have based incidents on this belief in a way which they would not have done if they had supposed that these incidents would have been rejected by their readers as improbable.

Without referring to the many authors who have written on this subject, he thought it might be truthfully said that down to the beginning of the eighteenth century this was the accepted belief of the medical profession. Blondell, an English physician, appears to have been the first to question this theory in 1727.

Within the past twenty-five years, many papers have been published in which this theory has been strongly controverted.

Dr. Barker believes, however, that the weight of authority must be conceded to be in favor of the doctrine that maternal

impressions may affect the development, form, and character of the fetus.

Montgomery says: "Pregnant women should not be exposed to causes likely to distress, or otherwise strongly impress their minds." Rokitsansky says: "The question whether mental emotions do influence the development of the embryo must be answered in the affirmative."

Carpenter (Physiology) says: "No sound physiologist of the present day is likely to fall into the popular error of supposing that marks upon the infant are to be referred to some transient though strong impression upon the imagination of the mother; but there appears to be a sufficient number of facts on record to prove that the habitual mental conditions on the part of the mother may have influence enough at an early period of pregnancy to produce bodily deformities or peculiar tendencies. But whatever the impression transmitted, it must be of a character to modify the nutritive materials supplied by the mother to the fetus."

Dalton (Physiology) says: "There is now little room for doubt that various deformities and deficiencies of the fetus, conformably to the popular belief, really originate in certain cases from nervous impressions, such as disgust, fear, or anger experienced by the mother."

It will be observed that all who disbelieve in this doctrine base their skepticism on what they regard as physiological reasoning, and chiefly on the assertion that there is no direct nerve communication between the maternal and fetal system, and nerve impressions cannot be transmitted to the fetus. Deformities, they urge, are due to arrest of development, but no one has brought forward any sound physiological reason why this arrest of development may not have been carried by maternal impressions, affecting fetal nutrition by their influence on the maternal blood, as well as by falls, injuries, diseases, uterine amputations by ligation of the umbilical cord, and the various other causes which have been assigned. His personal acquaintance with the profession lead him to suppose that a very large majority of obstetricians utterly disbelieve in this influence, and he ascribed this skepticism to the fact that, while they find this belief almost universal, to such an extent as to cause great anxiety in many of their patients, especially if they have been subjected to any strong emotion, yet the verification of this apprehension is so extremely rare, that probably not one in a hundred of practising obstetricians meets a convincing case.

Extremely rare as is the occurrence of cases which prove the result of this influence, yet he thought the fact is so well proved by sufficient authentic evidence to make it as certain as any other fact which cannot be explained by science, and there are many such. Indeed, in the light of all the evidence which has been accumulated on this point, it seems to him as reasonable to deny

the occurrence of earthquakes, because philosophy has not yet been able to give a satisfactory explanation of their cause.

DR. S. C. BUSEY, of Washington, believes that there is some relation of cause and effect between maternal impressions and fetal deformities, and in support of this belief submitted the following propositions: first, any prevalent and current belief must be based upon an element of truth; second, in the physical world there is no effect without a cause, so it is likewise true in the world of life, that there can be no effect without a cause.

If there is one single case in which there is no probable doubt that an impression did produce the effect, the inference must be clear that similar cases may follow. And if there is precise correspondence between these impressions and the deformities, the affirmative of the question must be accepted as presumptively proven.

All the cases may be divided into four groups: 1. Those which come under the head of coincidences. 2. Impressions in which there are fetal marks, blemishes, with absence of correspondence. These two classes are constantly urged as showing that there is to relation of cause and effect, whereas Dr. Busey would regard them as simply demonstrating that Nature does not always give us positive evidence.

The third class was that in which there was no previous mental impression and correspondence between the observation and fetal deformity.

The discussion was continued by DR. JOHN S. BILLINGS, of Washington, honorary member, who concluded his remarks with the statement that the best thing was to recognize our ignorance on the subject, to make experimentation where experimentation was available, and to collect such facts as might exist, and be content to admit that on this subject, as on many others, we do not know. The discussion was further continued by Dr. Goodell, of Philadelphia, who related a most remarkable case of deformity produced by maternal impression, and the discussion was closed by Dr. Barker.

On motion of DR. CHADWICK, of Boston, a committee of three was appointed to investigate and report on this subject at some subsequent meeting of the Society.

Second Day—Afternoon Session.

DR. JOHN BYRNE, of Brooklyn, read a paper on

THE TREATMENT OF PROCIDENTIA UTERI BY GALVANO-CAUTERY.

Of the forms of uterine disorder of place, from which a large number of child-bearing women suffered, there is perhaps none which more urgently calls for relief than that of downward displacement. During the last fifty years especially, gynecologists have nearly exhausted the resources of surgery and mechanics in devising measures of relief with reference to laceration of the

perineum. It may be a very remote and indirect cause, but that the two conditions, laceration and prolapsus, can be etiologically associated in any other sense than simply to render the tissues less elastic and more passively yielding to the weight of the heavy uterus, cannot be admitted. Moreover, in quite a large proportion decensus uteri does not exist to any greater degree with laceration of the perineum than is commonly observed in most multiparous women. This injury, for other and obvious reasons, should be repaired; but the restoration, however perfect, can have no positive influence so far as uncomplicated prolapsus of the uterus is concerned, but vulvar protrusion will be retarded and the patient's condition to this extent improved, in case the displacement exists to a partial degree.

He was unable to admit that the perineum in health was a support; but, on the contrary, was fully in accord with Dr. Emmet on that point. It is not unreasonable to conclude, first, that kolpo- and perineo-plastic operations can affect uterine prolapsus only in so far as they create obstacles to vulvar protrusion; and, secondly, that only when amputation of a portion or of the entire cervix is added to such measures can we look for permanent or satisfactory results. The main object of the amputation is to lessen the size of the suspended organ and to reduce its weight. This is not, however, the whole or the most important gain obtained, or by any means a satisfactory explanation of the *modus operandi* by which the desired result is obtained; but to the inflammatory processes which necessarily follow such operations, and the tension of parts directly engaged in supporting the uterus, and in part often the whole pelvic diaphragm, are we to attribute the success met with by many surgeons, notably August Martin.

This last-mentioned clinical point was the sole object of the paper to which he would direct attention. He then related an illustrative case in which, three years subsequently, there was no perceptible change in the condition of the pelvic organs from that which was present when she was discharged cured. The woman had remained in good health, menstruation was normal and regular, and she was able to pursue her laborious occupation—that of a laundress—with perfect comfort. The entire womb and vesico-vaginal wall protruded before the operation. The remarkable improvement in this patient's condition, namely, double disappearance of both vesical and uterine prolapsus, was a direct consequence of amputation of the cervix with galvanocautery, and seemed to open up a wide field of inquiry as to the most probable and rational explanation of such results. He was well aware that a great many would promptly dispose of the question by attributing all that occurred to the combined influence of periuterine inflammation and cicatrization of the cervical stump, but with a total absence of every physical or rational symptom by which such pelvic inflammation was usually recognized, this explanation could not be admitted.

The whole number of cases of procidentia uteri so far treated by this method has been nine, and in three of these only has the cervix been removed—two on account of peripheral hyperplasia, and one with hyperplastic elongation. Of the other six, two required linear cauterization on the vesical, and one on both vesical and rectal walls.

Were he to venture an explanation, he would say that following partial amputation by galvano-cautery, some process analogous to ordinary inflammation is brought about through the agency of radiant heat, by which a permanent shrinkage of some, and perhaps complete obliteration of both blood-vessels and lymphatics for a considerable distance beyond the line of actual cauterization is caused, that a condensation of cellular tissue must necessarily also take place, and in this manner dynamic forces, which in health help to maintain the uterus and other parts in normal position, become completely restored or greatly modified.

DR. GEORGE J. ENGELMANN, of St. Louis, then read a paper on

ELECTRICITY IN GYNECOLOGICAL PRACTICE.

With the exception of the work effected by a few specialists, notably Dr. Skene and Dr. Byrne, of Brooklyn, electricity in gynecology is in an almost chaotic state, and it has never presented any definite features. He wished in this paper to call attention to the faulty practice which had regulated the use of electricity heretofore; the false method, if method it could be called, which had caused the failure of electricity as a therapeutical agent in gynecology. The greatest errors which had been constantly made, and which give rise to failure, are an insufficient knowledge of the various instruments employed, lack of localization, concentration, and total want of doses and measurement, and also determination of the force and limitation of the intensity of the current by the sensations of the patient. The lack of exactness in the application of electricity was a feature which would strike almost any one in seeing the reports of cases. Operators had been in the habit of gauging its use by the number of cells, and the currents used had generally been too weak to be effective in gynecological practice. In a recent paper on this subject, written by Dr. Mundé, of New York, that acute observer had said that, so far as therapeutical results are concerned, the chief thing is to apply the poles in the proper spot, and not to use too strong a current.

Dr. Engelmann then gave a resumé of Apostoli's method of using electricity, and exhibited electrodes, battery, galvanometer, etc. He believed that the only definite contra-indication to the use of electricity was severe acute inflammation. He also made mention of a great variety of gynecological affections in which he had employed the agent with benefit.

Third Day—Morning Session.

DR. W. H. BAKER, of Boston, read a paper on

ELECTROLYSIS IN GYNECOLOGICAL SURGERY,

in which he restricted his remarks to the use of the galvanic current. The first topic was its use in the treatment of uterine fibroids. The method was first suggested by Dr. Gilman Kimball, of Lowell, who was aided in his work by Dr. Cutter. Dr. Baker employs needles very much smaller than those employed by Dr. Kimball, and has employed the galvanic current according to the following rules, and with marked benefit in many cases :

1. It should be used about a week before the menstrual period ;
2. The patient should be under the influence of an anesthetic ;
3. Electrolytic needles for both positive and negative poles should be used ;
4. They should be sharp and thoroughly clean ;
5. The needles should be buried in the tumor sufficiently near to each other so that when the current is introduced it will not be diffused to other parts.
6. The needles should not be too nearly approximated ;
7. When both needles are properly placed in the growth, it matters not whether the positive or the negative needle is the internal one.
8. After insertion, a current of four to six cells is first used, gradually increasing to eighteen to thirty cells, the intensity being much more exactly regulated by the galvanometer ;
9. The length of time from ten to twenty minutes, to be determined by the character of the pulse, which should be continually felt, and when found to be diminished in frequency below the normal, the current should be either discontinued or the number of cells decreased ;
10. No interruption of the current during the application ;
11. Gradual diminution of the current before disconnecting the electrode ;
12. The current should be cut off before the removal of the electrodes ;
13. The application should never be made at the surgeon's office and the patient allowed to go home after coming from under the influence of ether ;
14. After the application, put the patient to bed, where she should remain for a week.

Dr. Baker also spoke of the use of the galvanic current in the treatment of chronic cases of inflammatory perimetrial products. As long as there is any acuteness of the inflammatory process, it is hazardous to attempt manipulative interference. He believes that in electrolysis we have a valuable agent to assist absorption and promote cure. His experience, however, had been limited to a single case, but in which the result was so marked that he gave it in detail.

His conclusions were: First. That electrolysis is a useful agent in the treatment of certain cases of fibroid tumors of the uterus, as well as chronic circumscribed perimetrial affections. Second. When applied to fibroid tumors of the uterus, electro-puncture is the most reasonable and efficient method. Third. In the treatment of fibroid tumors of the uterus by this agency, frequent applications are not necessary. Fourth. Cases of perimetrial affections treated by this method should be selected with care in regard to the absence of all acute symptoms.

These three papers on analogous subjects, read by Dr. Byrne,

of Brooklyn, Dr. Engelmann, of St. Louis, and Dr. Baker, of Boston, were then before the Society for discussion, which was participated in by Dr. Chadwick, of Boston, Dr. Sutton, of Pittsburg, Dr. Hunter, of New York, Dr. Mann, of Buffalo, Dr. Byrne, Dr. Engelmann, and Dr. Baker.

DR. JAMES B. HUNTER, of New York, then read a paper on

PERSISTENT PAIN AFTER ABDOMINAL SECTION,

in which he spoke first of causes of pain before the operation, referable, first, to diseases of the ovaries and tubes; and, second, to diseases of the peritoneum. He then spoke of cases where the pain was referable to disease of the ovaries and tubes, such as distention of the tube, prolapsus of the ovaries, etc. He then directed attention to the cases of persistent pain due to peritonitis, which may be acute and limited to the ovaries and tubes, and occur at regular intervals; which may be subacute, attended with constant pain, the patient passing rapidly into a state of neurasthenia, etc. In chronic pelvic peritonitis it has been stated that pyo-salpinx would produce pain, but that pain was not produced by hydro-salpinx. Pain might be produced by traction through adhesions, etc.

If after the operation there is no marked relief from the pain at the expiration of two years, the operation may be pronounced a failure, so far as pain is concerned. The causes of such failures may be, first, former peritonitis; second, peritonitis following the operation; third, some defect in the abdominal wall, such as ventral hernia, etc. Dr. Hunter believes that after Tait's operation many of the patients still suffer pain long after they have passed out of sight. It becomes a question as to whether disease of the tubes may not be secondary to local peritoneal inflammation.

His conclusions were, first, that all cases of abdominal section should be carefully followed up and made the subject of inquiry for at least two years after the operation. Second, that peritonitis present in any degree should be treated as much for its remote consequences as for its immediate dangers. Third, that secondary operations are generally of no avail, only occasionally afford temporary relief, rarely effect a cure. Fourth, that a guarded prognosis should be made in all abdominal sections for the relief of pain.

The paper was discussed by Dr. Skene, of Brooklyn; Dr. Sutton, of Pittsburg; Dr. Wylie, of New York; Dr. Battey, of Rome, Georgia; Dr. H. P. C. Wilson, of Baltimore; Dr. Mann, of Buffalo; Dr. Johnson, of Washington; and the discussion was closed by Dr. Hunter.

DR. JAMES R. CHADWICK, of Boston, then read a paper on

THE BLUE DISCOLORATION OF THE VAGINAL ENTRANCE AS A
DIAGNOSTIC SIGN OF PREGNANCY.

It was based on the examination of four hundred and forty

cases, mostly in the early months of pregnancy, and the inspection was made before any digital examination was made, or before anything except the history of the case was known, which would suggest the existence of pregnancy.

He divided his patients into four classes. First, that in which the discoloration was doubtful; second, suggestive and more marked; third, characteristic, confined to the anterior wall of the vagina, more particularly to the urethra just below the meatus and on either side of the meatus. In every instance where it was present, with one exception, the woman was pregnant. Fourth, that in which the discoloration was marked, but where it had become deep and general, like the discoloration attending the great varicosity seen in the last half of pregnancy. The color is not a distinct violet hue, and is absent in perhaps one-third of the cases during the first three months. Dr. Chadwick would like to claim that it is of decided value in the early months of pregnancy where it is present, but that its absence in the second, third, or fourth months of pregnancy should not be accepted as evidence that the person is not pregnant.

The paper was discussed by Dr. Emmet, of New York; Dr. Parish, of Philadelphia; Dr. Richardson, of Boston, and the discussion was closed by Dr. Chadwick.

Third Day—Afternoon Session.

DR. R. STANSBURY SUTTON, of Pittsburg, presented specimens with remarks on three cases of

SUPRA-VAGINAL HYSTERECTOMY,

in which the operation was performed for fibroids of the uterus. There were but few cases in which supra-vaginal hysterectomy was a justifiable operation.

The communication was discussed by Dr. Reeve, of Dayton, Ohio; Dr. Wilson, of Baltimore; Dr. Wylie, of New York; The President, and the discussion was closed by Dr. Sutton.

DR. WILLIAM H. PARISH, of Philadelphia, then read a paper on

THE HIGH MORTALITY OF THE RECENT CESAREAN OPERATIONS
IN THE UNITED STATES,

with the report of a case in which Cesarean section was performed on account of obstruction from cervical uterine fibroid. Dr. Parish quoted from statistics furnished him by Dr. Harris, of Philadelphia, in which it appeared that the Cesarean operation has been performed in the United States one hundred and forty-four times, with the result of saving fifty-four, or thirty-seven and a half per cent of the mothers, and of delivering sixty-four living children. An analysis of the statistics furnished by Dr. Harris showed that the number of operations has been gradually upon the increase, and that the results are steadily becoming

ing worse each year within the last five years. When the operation had been performed in good season, and when the condition of the womb had been favorable, it had saved seventy-five per cent of the women in this country, and eighty per cent of the children. The mortality in this country is attributable to delay in operating, attempts to deliver by forceps, version, and craniotomy, before Cesarean section is resorted to.

The paper was discussed by Dr. A. Reeves Jackson, of Chicago; Dr. Baker, of Boston; Dr. Johnson, of Washington, and by the President, and the discussion was closed by Dr. Parish, who said that it could not yet be determined whether the Porro operation or the Cesarean section should be the method for the future.

In memoriam.—Albert Holmes Smith, M.D. By THEOPHILUS PARVIN, M.D., LL.D., of Philadelphia, Pa.

Officers for the ensuing year:

President, A. J. C. Skene, M.D., of Brooklyn.

Vice-Presidents, John C. Reeve, M.D., of Dayton, Ohio, and Ellwood Wilson, M.D., of Philadelphia.

Secretary, Joseph Taber Johnson, M.D., of Washington.

Treasurer, Matthew D. Mann, M.D., of Buffalo.

Members of the Council, W. H. Baker, M.D., of Boston; Charles Carroll Lee, M.D., of New York; A. Reeves Jackson, M.D., of Chicago; and Thomas M. Drysdale, M.D., of Philadelphia.

The following gentlemen were elected members: Drs. Charles M. Green, of Boston; A. F. A. King, of Washington; E. C. Dudley, of Chicago; A. W. Johnstone, of Danville, Ky.; H. Marion Sims, Joseph E. Janvrin, and W. Gill Wylie, of New York; and B. F. Baer, of Philadelphia.

The next meeting will be held in the City of New York, beginning September 15th, 1887.

TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF PHILADELPHIA.

Thursday, May 6th, 1886.

The President, B. F. BAER, M.D., *in the Chair*.

ASEPSIS NOT ANTISEPSIS. A PLEA FOR PRINCIPLES, NOT PARAPHERNALIA, IN LAPAROTOMY.

By HOWARD A. KELLY, M.D.—Medicine, like other branches of science, has been most retarded in its growth by the accumulation of all sorts of useless details. Some of these incrustations still clog the advance of abdominal surgery, and will be given up with a notable diminution in the general percentage of mortality. I refer to the use of carbolic acid and mercuric solutions at the

operating-table, and to the continued use of any elaborate abdominal dressing.

The use of antiseptics in the patient's belly is full of danger and inconsistencies, for the following reasons:

Firstly: If used in strength sufficient to certainly prevent sepsis, the patient is very often killed along with the germs. I have myself seen death from carbolic-acid poisoning. The *Amer. Practitioner*, Nov., 1881, p. 260, quoted by Dr. Goodell: "The first four cases done in the theatre at the beginning of last session had hemorrhage from the kidneys, and two of them died. I never had anything like that before. It was purely carbolic-acid poisoning; of that I have no doubt whatever." Thos. Keith speaks of several cases in his own practice, and references might be indefinitely multiplied. Regarding the use of the bichloride solution, it is sufficient to say that its use has been very much curtailed in all maternity hospitals, even as a vaginal wash. The danger-line is here a very broad one, for the limit appears only to depend upon the most variable of all factors—the individual susceptibility.

Secondly: It is the great tendency of all operators, and in particular their assistants, to forget the principle involved, and pin their faith to the accidental means of establishing it. This can be seen abundantly illustrated in almost any hospital in the land, where a clean napkin worked in and around the joints and grooves of the instruments in use, or carried under the nails of the operator's fingers, will exhibit sad evidences of soil. Then, too, the actual conduct of the operator is often modified by the false sense of security begotten by the incomplete use of antisepsis. I saw this well illustrated by a surgeon of more than local repute. The case was a herniotomy in which a large femoral sac was opened. The spray was throwing out a dense cloud. Instruments and sponges were immersed in a two-per-cent solution of carbolic acid, and elaborate dressings were ready. A coil of intestine protruded from the wound for several inches, and it lay, first, on the old hospital blanket below, and then, in the effort to reach the ring, was turned upon the night-gown above. The antisepsis was here made a farce by these and other glaring inconsistencies.

If germicides must be used at all, let it be before the operation and in strength sufficient to neutralize any sepsis about instruments, sponges, etc. Then let the operator go to work with clean instruments, clean sponges and clean hands, and he will need no antiseptics, and the patient's belly will no longer be a battle-field where germs and solutions fight, often with such direful results to the host. It is my belief that it will not be long before the day of solutions will be past, and that in the future the successful surgeon will go to his work with pure water or dry pans for his instruments and fluid enough to cleanse sponges. My own practice has been to use hydrant water boiled for an hour and allowed to stand, or better still, distilled water, as used by Prof. Schroeder, and

independently suggested and used by my friend Dr. Jos. Price. I do not believe that reservoir water, dirty as it often is, ever contains any of the specific matter productive of septicemia; but the process of boiling and using only the supernatant liquid makes it perfectly harmless.

Another fallacy, discarded by some of the greatest operators but perpetuated by many, is the transference of the use of the elaborate Listerian dressings of general surgery to the abdominal wound. These dressings, so manifold and multifarious, are clearly intended to prevent sepsis from penetrating the now closed abdominal wound. This is an accident which fortunately never occurs in the intra-peritoneal method, the rapid agglutination of peritoneal surfaces effectively closing the sac. A sterile dry powder will absorb the slight serous discharge at the edge of wound and suture exists, and above this some absorbent cotton and a firm bandage is all that is required.

While the danger of infection of the peritoneum through the closed wound is minimal, that of an infection of the belly wall through stitch holes is very great, and this is best prevented by the dressing recommended by Keith, of carbolic acid and glycerin, one to eight parts.

With the mind thus freed from the notion that these solutions and dressings are accomplishing anything—from two such dangerous fallacies—operators at large will then work with a living consciousness of the real conditions of success, and they will then be on the alert from the beginning of the operation to its close, keeping within the mental horizon an exact knowledge of everything coming into contact with the patient's belly.

The expression of my convictions and practice will be of value in so far as they are in accord with the following letters upon the subject by the two greatest abdominal surgeons in the world, Lawson Tait and Thomas Keith. Lawson Tait, in a letter dated March 15th, 1886, to the writer, says, "I still use tap water and nothing else; it is never boiled; my instruments are prepared by being washed in soap and water merely. I use no elaborate dressings for the wound, never using anything at all except absorbent cotton wool."

From a communication from Thomas Keith, of Edinburgh, written March 16th, 1886, I make the following extract: "The secret in abdominal surgery, the secret in all surgery, consists in carrying out the antiseptic principle. You may do this in a simple way, or you may do it in a complicated way. All instruments, needles, forceps, sponges, etc., everything about the wound must be disinfected. A weak carbolic solution applied to the wound can do no good nor harm. You may safely use hot water. My instruments, after an operation, are scrubbed with a nail brush, especially the forceps points. This is repeated before the next operation with a five-per-cent solution of carbolic acid. The

greatest risk is that we put in septic matter on our hands, instruments, and sponges. Sepsis may come from the wound, but it rarely ever penetrates inside. I use a simple dressing of gauze, eight or ten folds soaked in one to eight carbolic acid and glycerin, extending two or three inches or so beyond the line of incision on all sides. Over this some ordinary cotton wool, a flannel bandage, and nothing else. Use this and you will never use anything else. And don't look at it for a week or ten days. You ought for the patient's comfort to put on an antiseptic dressing of some kind. You will probably often have suppuration with stitches if you do not. Yours sincerely,

"THOMAS KEITH."

DR. MONTGOMERY feels great interest in Dr. Kelly's remarks, reinforced as they are by the letters from Tait and Keith. The antiseptic method of treatment has done a great work for surgery, and the successive steps of Listerism and cleanliness have brought it up to the comparative certainty of result now attainable. We can now eliminate almost entirely the antiseptic agents, carbolic acid, mercuric chloride, thymol, etc., and can do as well by the most rigid attention to cleanliness in all details of hands, instruments, sponges, and the skin of the patient. Some years ago he felt gratified that, in a patient upon whom he operated before a class at the Philadelphia Hospital, with Listerism and the carbolic spray, the temperature did not rise above 102°. Now in his private hospital with rigid attention to cleanliness, and thorough washing of the peritoneal cavity with hot water, the highest temperature will be below 100°. After operations involving the opening of the peritoneal cavity, if there has been any opportunity for the escape into it of blood, pus, or cyst contents, he washes it out thoroughly with hot water. After closing the wound, he covers it with sublimated gauze and absorbent cotton, and secures this with strips of plaster and a bandage. This dressing remains a week without need of disturbance. If gut sutures, or silk rendered aseptic by a coating of wax with carbolic or salicylic acid be used, there will be no trouble about suture abscesses. In a recent case in which the abdominal walls were two inches thick from adipose deposits, these precautions were observed and there was not the slightest suture trouble. He does not now consider the spray of any value, because we cannot use carbolic-acid solutions strong enough to certainly destroy germs without poisoning the patient, and the spray only washes the germs down into the wound.

DR. CHARLES HERMAN THOMAS remarked that the experiments of Dr. Sternberg, of Johns Hopkins College, a careful and conscientious observer, have developed the fact that some of the antiseptic solutions in common use, three-per-cent carbolic acid for instance, actually stimulated the growth of bacteria. Perfect cleanliness is the essential point, the foundation of surgical success. He has seen Dr. Kelly operate without disinfectants, his instruments being placed in a dry pan, and his results prove the truth of the assertions he has made this evening.

DR. M. PRICE has experienced great difficulty in his attempts to secure absolute cleanliness. He has seen half a dozen unclean hands introduced into a peritoneal cavity during operation, sim-

ply from curiosity; sponges picked up from the floor, napkins from a dusty window sill, instruments from a soiled blanket, and each used on peritoneal or absorbent surfaces; sponges that have been filled with pus used again in the peritoneal cavity, and in general extreme thoughtlessness in the little details of cleanliness that compelled the full power of antiseptics to bring good results. He has had good results in pyo-salpinx even when purulent cysts have burst in the abdominal cavity, but he allows only the operator's hands to enter that cavity, and practises the most thorough washing out with clean water. He has been burned by simply holding a carbolized ligature in his mouth for a few minutes, and feels sure that the retention of a number of such ligatures in the abdomen would be quite likely to give rise to trouble.

DR. CHAS. MEIGS WILSON said cleanliness, by whatever means obtained, is the great element of success in abdominal surgery. As absolute cleanliness can best be obtained by the use of agents possessing germicide and anti-putrefactive properties in the preparation of the atmosphere, the operator's person, the instruments, sponges and dressings, it seems to be the part of wisdom to employ such agents up to the time of and even during the operation. With a perfectly clean room and furniture, clean air, clean instruments, and clean hands, possibly no antiseptic agent would be needed. But unfortunately such conditions do not universally or generally exist, and to attain them we must resort to the use of some efficient antiseptic. Care should be taken to employ some agent which is efficient, and at the same time non-poisonous. In English and continental hospitals where excessive antiseptic precautions are employed, the success attained, compared with the previous mortality rate, proves unquestionably the great value of such precautions. The united testimony of experienced American operators as to the value of antiseptic precautions should not be set aside. I believe that all instruments should be submitted to the purifying influence of dry or moist heat; that the towels, sponges, and dressings should be left for twenty-four hours in a boiling hot solution of mercuric chloride 1:2,000, and that the silk-worm-gut or fine wire sutures and ligatures should be kept in a very weak solution of carbolized oil. To my mind the terms antiseptic and aseptic are synonymous. My own experience has taught me that the best and least dangerous antiseptic agents are those which possess rather an antiputrefactive power, *i. e.*, those which prevent or retard putrefactive changes, rather than the more dangerous class of agents which possess decided germicide powers.

DR. PARISH:—Antiseptics are not intended to take the place of cleanliness. The greater the care bestowed on cleanliness in all details, the less will be the need for antiseptics. Boiled water, filtered, is a good washing material; patient, hands, and instruments must be clean to insure good results. Absorbent lint, wet at time of using with a 1:2,000 mercuric chloride solution is a good external dressing. Dr. Parish agreed with most of Dr. Kelly's statements, but he believes in the value of antiseptic vaginal injections after labor in hospitals. The maternity wards of the Philadelphia Hospital showed a large number of deaths, varying from three to ten per cent, for many years prior to 1885; but 1st year in two hundred and forty-seven cases of labor there were but two deaths, one of these was after Cesarean section in a patient who had been in labor nearly three days before she was brought into the hospital. The other fatal case was in an idiot, and was largely from other

causes than the labor, which was not at fault. These good results are due to the use of mercuric chloride injections principally, although we have now new wards and opportunity for frequent change of nurses when advisable. In a case of septicemia following adherent placenta, the patient seemed almost moribund, but hot uterine injections of mercuric chloride, 1 : 4,000, stimulated her and led to recovery. Water is boiled to destroy possible germs, and filtered to get rid of various impurities not held in solution.

DR. M. PRICE thought the heat of the injection used by Dr. Parish was the most important element in stimulating the patient; but the mercuric chloride would do no harm, and the fact that improvement commenced and continued from that time is the important point. The reaction against the use of antiseptics should not be allowed to go too far. They have done great good and cannot be discarded.

DR. LONGAKER agrees with Dr. Parish and regrets to hear any disparagement of antiseptics. No reputable maternity can be conducted without them. Dr. Lusk considers that the poor woman delivered in the hospital, with the protection of antiseptics, is safer than the rich woman in her home, with every other safeguard, but without them.

DR. SOPER, formerly of the Rotunda, Dublin, upon invitation from the President, remarked that this was a very mixed question, that neither cleanliness nor antiseptics could be dispensed with. He had seen cases do well under all conditions without antiseptic precautions, and if the solutions are dangerous we must be cautious in their use. He believes thoroughly in cleanliness, and would use antiseptics when he thought them needed. It does not do to run into extremes.

DR. KELLY replied, in closing the discussion, that he was both surprised and gratified that so many members of the Society had expressed their approval of his paper. In two or three instances, however, he had been grievously misunderstood. He believes it to be the great glory and the crowning triumph of *antiseptics* to have discovered *asepsis*. He had nothing whatever in common with those surgeons who claim that antiseptics have done nothing. The peritoneum is a vast, exquisitely sensitive "culture" sac. In the old time, chance decided whether the uncleansed hand of the surgeon carried in suitable germs to multiply in the medium, and the chances were greatly against the patient. Now the use of antiseptics accidentally involves rinsings and washing which make the surgeon a clean man in spite of himself, and the patient generally escapes. In a more advanced position, and the one in which the surgeon is living up to a *principle*, the utmost precautions are taken by a preliminary use of antiseptics in sufficient strength, and he goes to his operation needing no germicides.

Let the battle-field be without the woman's belly and the germicide will there be sure of the victory every time. Statistics from foreign maternities, as quoted, instead of proving against, are one of the strongest arguments for this position, for there the use of the germ-destroying agent is wholly *without* the patient's body.

DR. M. O'HARA reported a case of

EXTRAUTERINE PREGNANCY WITH RUPTURE OF THE FALLOPIAN TUBE.

LAPAROTOMY ON THE THIRTY-THIRD DAY. RECOVERY.

On September 25th, 1885, Dr. O'Hara was called to see R. H.,

who had been in good health until seized, two hours previously, with severe rectal tenesmus, agonizing pains in the pelvis, pains from both flanks, and extending down the right leg and arm. From the tenesmus she thought she would have a stool and rushed to the water closet, but no relief followed; rushed to her room and fainted; she was carried to bed, rectal injections were given by those present, but no movement followed, and opiates were given for the relief of the pain. When I saw her she was in collapse, almost pulseless, respiration shallow, extremities cold. The whole surface was bedewed with a cold death sweat. She could not lie on her left side or back, but reclined doubled up upon her right side, and would jump up occasionally with exclamations of agony. The history hastily gathered gave the following data: R. H. was 30 years of age, mother of three healthy children, the youngest one year old; she was still nursing it. She had never been sick and had menstruated regularly. One menstrual period had been missed about a week before the accident, and she considered herself pregnant.

The diagnosis was internal hemorrhage, due to rupture of the Fallopian tube at the fifth week of pregnancy. Opiates and stimulants were used. The next day Dr. Parish was called in consultation and concurred in the diagnosis. There was still some shock, pulsation 130, feeble and irregular; respiration feeble; temperature normal; great pallor, evidently due to the loss of blood; the abdomen was moderately distended with occasional cramp-like pains; moderate tenderness, but no symptoms of peritonitis. Patient showed signs of reaction, and laparotomy, though discussed, was deferred. Five days after the rupture the patient was able to bear a close examination. The abdomen was greatly distended; there was no tenderness on moderate pressure; resonance was general, except in right flank, where there was moderate dulness; there was no dulness in the left iliac and lumbar regions, except very far back near the kidney. There was an apparent bulging of the right flank. The vaginal surface was generally edematous, the anterior wall of the vagina was thicker at the cervix and to the left. The cervix is moderately soft and patulous; no bulging of the posterior pouch. It was not deemed advisable to use the sound. The urine was almost black in color. Pulse 104; temperature 99°; respiration normal. Two days later a marked jaundice appeared, although occasional vomiting and purging of bile occurred. A few days later, a swelling was noticed on both sides and in front of the cervix; and a bloody, painless discharge, containing decidua-like fragments escaped from the uterus, and the dulness in the right iliac region disappeared. Urination became painful and difficult. The patient felt so much better that she desired to get up.

Three weeks after the first attack, a terrible flooding occurred; it lasted for an hour, and slight hemorrhage continued afterwards.

There was decidua in this discharge. At the same time, the suprapubic tenderness extended towards the right and slightly increased on the left side, extending upward as high as the umbilicus. Chills, and a rise of temperature to 101° , vomiting, constant sharp, cutting pains, and emaciation with signs of softening along the crest of the ilium, and general appearances of blood poisoning occurred, and surgical interference was strongly urged as the only means of averting death. On the thirty-third day, Dr. Parish operated, and he prepared the following report of the operation:

There were present Drs. O'Hara, R. P. Harris, DeF. Willard, and McElroy. I prepared to cut down directly on the tumor by an incision immediately above the outer portion of Poupart's ligament, believing that the tumor consisted of blood coagula and pus located external to the peritoneum, and that the anterior parietal peritoneum had been dissected up to such an extent that the mass could be incised and emptied without opening into the peritoneal cavity, and without incurring the possibility of objectionable fluids reaching the serous surface. I also believed that the peritoneal cavity was clean, and that there had been no general peritonitis.

The gentlemen present advocated a median incision for purposes of exploration, and, in deference to their views, I first cut through the linea alba, just below the umbilicus, making an incision long enough to admit two fingers. The peritoneal cavity was found empty, and the peritoneum quite normal though somewhat congested. The exploring finger showed that the mass was external to the peritoneum, and had extended upward from the left half of the pelvis to a level with the umbilicus. The broad ligament had become obliterated by separation of its layers. It was not thought advisable to explore with the finger with the view of determining the condition of uterus and ovaries and tubes. The peritoneal covering of the abnormal accumulation was evidently thin and tense, so that a careful exploration as to the condition of the uterine appendages would have endangered its rupture and the probable development of general peritonitis. It would have been an easy matter to stitch the parietal wall of the tumor to the walls of the median incision, and to have then, by incision, emptied the mass of its contents. But such a procedure would have been attended with risk of leakage of the offensive fluid into the peritoneal cavity. To avoid this risk, I now made another incision along the line of original election, *i. e.*, above the outer border of Poupart's ligament, and readily reached the mass cavity without wounding the peritoneum. This incision was made long enough to admit two fingers. About one quart of blood-coagula, fluid blood, and pus escaped. The fibrinous masses were removed, and all attached portions were scraped off with the fingers. The curette was avoided chiefly because of the thin upper wall. The cavity was washed out with antiseptic fluid.

The median incision was closed with sutures, a drainage tube

was introduced into the mass cavity. An incision could not have been safely made through the vagina, as the intervening tissue was too thick, and its vascularity too great. The incision made admitted of more thorough emptying of the cavity.

The patient suffered no shock from the operation. There was a slight sanguinolent discharge, containing small clots, from the drainage tube, amounting to about two ounces in twenty-four hours. Nourishment was taken fairly. The cavity left at the time of operation held fl. ζ xxxij. In two days it had contracted to fl. ζ i., but the discharge was purulent and offensive. A bloody discharge from the uterus had continued since the operation, but was free from odor and diminishing. The last sutures were removed five days after the operation, and two days later the drainage tube was replaced by a tent. Two weeks after the operation the uterine discharge had ceased, but free bleeding from the wound occurred; there had been no exertion, sneezing, or coughing to cause this hemorrhage which occurred about eight weeks after the last menstruation, but a week later a bloody discharge occurred from the uterus and wound. The temperature rose to 103° . There was no pain on pressure, but there was a suspicious hard spot in the left iliac region. Twenty-four days after the operation, the patient was permitted to sit up, and while cheerfully singing felt blood streaming down her legs from the wound; clots passed also from the uterus and rectum. She felt the rectal tenesmus and pains in right lower extremity, similar to those felt at first seizure. Much blood was lost. A similar bleeding occurred three days later, and, as life was endangered, it was thought necessary to give ether and explore the cavity. It was found that the tissues had been dissected up by accumulated blood and pus until the cavity extended down the side and front of the uterus, and communicated with the rectum at the upper end. The cavity was thoroughly scraped with a curette, and was then packed with alum sponges after disinfection with Platt's chlorides. The patient reacted well. When the wound was injected nothing came from the rectum, but an injection into the rectum came out of the wound, and there was a fecal odor about the wound. Next day, the sponges were removed and muslin tampons wet with phenol sodique were introduced. The packing was changed twice each day. Discharges of offensive fecal matters and a small gall stone escaped from the wound.

On February 15th, nearly four months after the operation, the patient is noted as doing uniformly well; the wound is closing; the exudation about the uterus and vagina is disappearing, and the odor and elimination of gas while dressing the wound had disappeared.

May 1st. patient has gained greatly in flesh, and presents the appearance of perfect health. A very small, short sinus alone remains. The communication with the bowels has closed entirely.

Menstruation occurs normally, and there is no bleeding at any time from the wound.

DR. PARISH made a few remarks upon the history of this case, and the difficulties surrounding a diagnosis. The patient was thirty years of age, and perfectly healthy. She missed one menstrual period, and a week later, possibly in the fifth week of pregnancy, there were signs of internal hemorrhage with shock. Dr. O'Hara at this time made his diagnosis, doubtless correct, of tubal pregnancy with rupture of the cyst. The patient commenced after a few hours to rally. Dr. Parish was called in consultation the next day; he suggested an operation to remove the cause of the trouble, but did not urge it as the symptoms had ameliorated. The patient continued to improve for several days. Afterwards a tumor appeared. The first hemorrhage being into the folds of the broad ligament and limited, did not show, but, as repeated hemorrhages occurred, the tumor increased, pus formed, the embryo softened, septicemia without peritonitis was developed, and then the operation was performed, and was then imperatively demanded. Three months after the original shock, a sudden and nearly fatal hemorrhage occurred simultaneously from the wound, vagina, and rectum. Evidently there was a tubal communication between the uterus and the wound, and a large rectal fistula had formed. This fistula healed without any separate operation.

There was evidently at the beginning a pelvic hematocoele without peritonitis, due to a ruptured Fallopian tube. The early operation was proposed, but did not meet with approval. It was evident the hemorrhage was extraperitoneal, as it would most probably have been fatal if it had burst into the peritoneal cavity. He deprecates the expectant plan of treatment of cases of rupture of the cyst of tubal pregnancy, but in this instance the amelioration of the symptoms at the time when first seen by him led him to hesitate as to the necessity for immediate operation. The sequel showed that, in this case, an early laparotomy would have been of no service. The patient's recovery is complete.

DR. HARRIS heard of this case a week after its commencement, and believed, from what he knew of it at that time, that it would be advisable to perform the laparotomy; but subsequent developments indicated that the hemorrhage was extra-peritoneal and gradual, and there was therefore no immediate danger to be overcome. When, however, he saw the patient, October 28th, he was satisfied that her constitutional symptoms required that an exploration of the abdominal cavity should be made, the blood cyst defined, and then that the blood should be evacuated above the left groin. This opinion being sustained in the consultation, the operation was performed accordingly.

DR. PRICE inquired if any examination of the condition of the gall-bladder and duct had been made at the time of operation. Was the jaundice due to mechanical obstruction or to the general condition?

DR. BAER at first thought an error had been committed in not operating at first when the diagnosis was made and the tube ruptured; but the full history puts the matter in a different light and would cause great hesitancy about rushing in in a similar case.

DR. O'HARA had made his diagnosis at the time of the accident. Operation could not have been performed then on account of the

collapse, and after that passed away it did not seem called for until the time of its performance. One question has risen in his mind from the subsequent history of the case. Would it not have been better if the wound had been packed from the time of the operation?

SAENGER'S CESAREAN OPERATION.

DR. ROBERT P. HARRIS said: I desire, through this Society, to give publicity to the following statement, received a few days ago in a letter from Dr. Sänger, of Leipzig, by which it will be seen that his method now stands unrivalled in the world, in its ability to save human life. Locally considered, the Porro operation, as performed in the Santa Caterina Hospital, of Milan, Italy, has, until recently, far exceeded, in its proportionate success, all other Cesarean methods in any hospital or country; but this, the best of all Porro successes, has now to be rated second, as compared with its younger German rival. Laparo-elytrotomy, a year ago, stood upon the same level with the Sänger operation, in its rate of success; but now, the latter far outstrips it in the number of times it has been performed and in its proportion of cures.

According to Dr. Sänger's letter, his operation, with its modifications and simplifications, has been performed 25 times; saving 18 women (or 72 per cent) and resulting in 22 children being delivered alive, or 88 per cent. In these are included three fatal American cases, which, if not in an absolutely hopeless state before the operation, gave a very minimum hope of success. The European 22 operations saved 18 women, or $81\frac{9}{11}$ per cent. In the Maternity Hospital of Leipzig, Dr. Sänger has operated four times, Dr. Obermann once, and Dr. Donal once, saving all of the women and children; in but one woman was there any special trouble after the operation. Dr. Leopold, of the Dresden Maternity Hospital, has operated nine times, and Dr. Corn once; the former lost one woman, all of the children were saved. Thus we have 15 women and 16 children saved under 16 operations, a mortality for the former of only $6\frac{1}{2}$ per cent. Of the four deaths in Europe, two resulted from septic poisoning which existed at the time of the operation, and in the other two subjects it followed it.

Dr. Sänger has such confidence in his method, from the success that has attended it in Germany, that he believes the time has come when it should be preferred to craniotomy, because of its moderate fatality, and its saving the child. We should be glad if all of the Cesarean operations of the United States should be performed after Sänger's method, as simplified by Garrigues and Leopold, but we must not expect very happy results here, until our accoucheurs become alive to the fact that delay in operating will make any method fatal in a large proportion of cases. In no country are the capabilities of the old Cesarean operation greater than in the United States, and in few has this form of delivery been of late more uniformly fatal. To find eighteen recoveries

under it we must search backward to January, 1863, and through a record of time covering more than twenty-three years; in which period seventy-three operations have been performed, proving fatal in about seventy-five per cent. This occurred notwithstanding the established fact that early operations will save seventy-five per cent of the women and still higher of the children in the United States.

TAIT ON FARADIZATION.

DR. R. P. HARRIS also presented the following letter from Mr. Lawson Tait, of Birmingham, dated April 16th, 1886. "I have very strong objections to the proposal to treat cases of extra-uterine pregnancy by faradization. In the first place, the diagnosis of these cases must always be haphazard, that is to say, a correct diagnosis will not be made probably more than once in three times; the result will be that all such cases will be dealt with mischief only, and I venture to predict that this treatment will be dropped, as all such treatments are, without explanation of the case, in a very short time." "My greatest objection is, that supposing the fetus has passed through the stage of tubal rupture and remained alive, what right have you to murder that child? If it goes on to the full time it may be delivered alive, and the woman will have a chance of recovery from the operation, far greater than with the faradization treatment of destroying the child. The cases, according to my experience, which recover from the operation are about six out of seven.

"Every one who has had much experience with pelvic tumors must have seen a certain number of cases where the fetus has died between the fourth and sixth month, and where after a prolonged course of suppuration it comes out through the rectum, bladder, etc.; these are, of course, the cases where the tubal rupture has taken place into the broad ligament on the left side. I have seen one right-sided case going into the bladder; it, of course, killed the patient.

"In the whole course of my life I have only known of one case where the woman has carried an extrauterine pregnancy for a number of years after the death of the fetus. We know with perfect certainty all about this case, and for about eighteen years she has carried on the left side a condensed ovum of extrauterine pregnancy. I doubt very much if there could be found in the whole world three other such cases; whereas the number of cases who die or who have prolonged illnesses, after the suppuration and discharge of the fetus, is even in my own experience very great."

In closing his letter Mr. Tait writes: "I wish you would make this opinion of mine known on your side."

In reply I will state: 1. We do not, in this country, practise electrolysis in cases of extrauterine pregnancy. No puncturing needles are used, and the electro-magnetic current will not endanger the life of the patient any more if the growth to be acted upon

is a tumor, than if it be, as presumed, an ectopic fetal cyst. The experience of seventeen years in the United States, in which no fatal result is believed to have taken place, has only tended to establish this feticidal method as a valuable means of saving women when in great danger of death from rupture of the fetal cyst and internal hemorrhage.

2. We do not propose to act upon the fetus after it has escaped into the abdominal cavity, unless the fetus should be very small, and be easily accessible to the pole of the battery placed in the vagina. We cannot see that it is any more a murder to destroy a two or three months' fetus after it has escaped from a Fallopian tube by rupture, than while it is still in it. The chief objection lies in the fact that such ectopic fetus will be much more likely to give trouble after its destruction, than one that is securely inclosed in a sac from which the amniotic fluid shall have been absorbed. It is true that an abdominal fetus may be delivered alive at term, if permitted to live; but it is not correct to estimate the risk of such an operation as lower than faradization properly performed, for it is far higher. Primary laparotomy, as far as we know of the operation, has been fatal in fifteen out of nineteen cases.

It is not proposed in this country to operate by faradization upon fetuses of from four to six months. Dr. T. G. Thomas has, it is true, proposed to make the limit four and one-half months, but the general impression is, that feticide is much safer, immediately and remotely, if done in the second and third months, when fetal ossification is very incomplete. The entrance of fetal débris into the bladder is not necessarily fatal, as in the case related by Mr. Tait; for Parry refers to nine cases four of which recovered.

Mr. Tait appears not to be aware of the fact that cases of prolonged ectopic gestation have been comparatively numerous, as witness the following partial records:

1. Nebel reports the case of a woman of 91, who died in 1767, and in whose body a fetus was found that she had carried fifty-five years (Campell on "Extrauterine Pregnancy," 1840, page 45).

2. Brandt records one of a woman of 80, who died in 1858, after carrying a fetus for fifty-six years, and bore two children while it was still in her abdomen (Ranking's Abstract, 1863, vol. i., page 216).

3. Parkhurst reports one of a woman of 77 who carried a fetus, fifty-two years (*British and Foreign Med.-Chi. Rev.*, 1856, vol. i. page 271).

4. Chiari gives a case of a patient who died of pneumonia when 82, and who carried an eight months' fetus for fifty years (*Lancet*, London, 1876, vol. ii., page 141).

5. Conant's case was a woman of 63, who died in June, 1863, after carrying a fetus thirty-five years (*New York Med. Jour.*, May, 1865).

6. Majon found in a woman of 78 a calcareous fetus computed at three months (Cruveilhier, "Essai sur l'Anatomie Pathologique," Paris, 1816, tome ii., page 130).

7. Mangin and Vernier found two fetuses in the body of a woman of 74 which she had carried thirty-three years (*Jour. de Médecine*, 1786; *Gaz. Méd.*, July 29th, 1837).

8. Morand also found a three months' fetus in a woman of 78; she had carried it thirty years ("Mém. de l'Acad. Royale des Sciences," 1748).

9. Kristian Grön found a three months' fetus in a woman of 49 which had been carried eighteen years (*Norsk Magazin for Lægevidensk.*, Band xvii., Heft 2).

15. Johannis Ambosi (1582) reported a case of a woman of Lens who carried a fetus twenty-eight years (See Astruc, "Traité des Mal. des Femmes," Paris, 1765, tome iv., page 78).

11. Campbell reports the case of a woman of 75 in which was found a fetus that had been carried thirty years; a fetus of about two months was also found (C. on "Extrauterine Gestation," ed. 1540, page 55).

12. Pepper relates the case of a patient of 53, married twenty-seven years, in whose body Dr. Loder found two fetuses, one carried twenty-three years (Trans. Pathol. Soc., Philadelphia, 1876, page 102).

13. Francis Boyle removed an eight-pound fetus after the death of a woman of Toulouse that she had carried twenty-six years ("Philos. Trans. Abridg.," London, 1794, vol. iii., page 222).

14. Cruveilhier, in his "Anatomie Pathologique," gives a plate representing a calcified fetus which had been carried many years.

15. Oelinger reports the case of a woman who carried a six and one-half months' fetus about fifteen years (*Prog. Méd.*, Paris, 1884, vol. xii., page 196).

16. Johnson's case, aged 68, carried a fetus fourteen years, after which she discharged fetal remains, at intervals, during thirty years (*Med. Times*, London, 1872, vol. i., p. 655).

17. Leinzell in 1720 removed from the body of a woman of 94 a fetus that she had carried for 46 years.

18. Watkins examined a woman of 74, who died of kidney disease January 13th, 1866, and removed a fetus which she had carried for forty-three years (*Brit. Med. Jour.*, March 3d, 1866).

19. Van Sweiten also records the case of a woman of Lyons, who died at 68, and had carried a fetus for twenty-seven years (opus cit.).

21. Fabri, of Ravenna, found in a woman of 55 a fetus she had carried for some years. The pregnancy was her fifth, and she bore two children at later periods (*Brit. Med. Jour.*, March 7th, 1863).

Many more cases of the same character might be added to this list, some of which would go to show that an extrauterine fetus may prove fatal by purulent disintegration and pointing after

twenty years or more. Even an ectopic fetus of three months may cause perforation of the rectum and possibly a fatal issue, although this is a rare result. It will be noticed that in three of the twenty-one cases the fetus was computed at three months; and in another, a second fetus was of two months.

Dr. O'Hara exhibited a

FIBRO-CYSTIC TUMOR OF THE UTERUS

removed after death from a patient, æt. 53 years, who had carried it for over twenty years. Three years after it was first observed, she applied to Dr. Atlee for relief by operation; but he declined and recommended that it should be left alone. The tumor contained numerous small cysts, and measured thirty-nine and one-half by thirty-four inches in circumference, and weighed thirty pounds. The peritoneum was one-quarter of an inch in thickness, and was of a yellowish-white color.

Dr. PARISH remarked that the tumor had formed no adhesions, with the exception of a few slight ones to the omentum, and the removal of the ovaries and tubes would have been feasible at any time. Both tubes were dilated and in a condition of hydro-salpinx. The tumor sprang from the fundus uteri, the cavity measuring only four inches. The tubes and ovaries had remained at their normal position in relation to the uterus, but had been elevated out of the true pelvis. The vagina had been stretched upwards, as also had been the uterine body and neck. The uterus below the fundus had diminished in size to about that of the index finger. The bladder, by reason of the traction upward, had lost its attachment to the uterus, and merely retained posteriorly its attachment to the vagina. Ordinarily, the extent of the attachment of the bladder to the uterus becomes greatly increased in large uterine fibroids. In the specimen submitted, supra-vaginal amputation of the uterus with the tumor could have been effected without separation of the bladder from any of its attachments. It is interesting to observe the condition of bilateral hydro-salpinx some six years after the menopause. The patient died with acute symptoms of vomiting and purging of dark fluids containing probably blood extravasated through the intestinal walls. At the autopsy, no indications of perforation of the intestine were apparent. The patient was able to engage in active work until a few days prior to death, and hence the double hydro-salpinx could not have occasioned pronounced symptoms.

ON THE STATISTICS OF 3,036 CASES OF LABOR.

By HIRAM CARSON, M.D.—Dr. WM. GOODELL read this paper, which was published in full in the *New York Medical Journal* of May 15th and 22d, 1886.

TRANSACTIONS OF THE OBSTETRICAL AND GYNECOLOGICAL SOCIETY OF WASHINGTON.

Stated Meeting, April 2d, 1886.

DR. A. F. A. KING, *President, in the Chair.*

DR. S. S. ADAMS presented a

PLACENTA,

and gave the following history:

Mrs. R., English, æt. 27, of good physique, with a history of excellent health during her whole life, had an abortion in February, 1885. She dated conception from the preceding December, when she was married. She could not account for the "mishap," as she had not over-worked or done anything to cause such an accident. She bled at this time for two days, when Dr. Busey was called in. She recovered, and menstruated regularly for several months. Her last regular flow began June 8th, 1885, and lasted five days. July 10th, she had a slight flow lasting but one day. During the pregnancy, she had taken excellent care of herself, and seemed very anxious to have a child. She came to see Dr. Adams, March 31st; was looking well; bowels moved every day; voided a large quantity of urine daily; and was in excellent spirits. Expected to be confined in a few days, as the "little fellow" was very restless.

About 4 o'clock A.M., April 1st, she awakened from her sleep by what she supposed to be the escape of urine. Got up to use the vessel, when "something" ran from her in a stream. She struck a match, and to her surprise she was flooding profusely. Dr. Adams reached the house about 6 A.M. Found her cheerful, with good pulse and color. She facetiously remarked that she had intended to "April-fool" her husband, but that the joke was now on her. Large blood-clots had been passed. There was an occasional pain in the small of the back. The os was not dilated sufficiently to admit the end of the index finger; there was a slight oozing of blood, and a few clots in the vagina. Rest in bed was strictly enjoined. Saw her again at 11 A.M. A few clots had been expelled, but her condition was good. Os dilatable, and pains recurring every ten minutes. A vaginal injection of hot water promptly checked the hemorrhage. The head was expelled at 2 P.M. Several pains were necessary to expel the shoulders, and during their expulsion the woman screamed for the first time. The cord encircled the child's neck three times, and was wound so tightly that

it was thought it would be broken in the unwinding. The child was cyanosed, pulseless, and did not breathe, and efforts to resuscitate failed. Dr. A. F. A. King, in his "Manual of Obstetrics," gave the following symptoms of shortened funis: Local pain; weakening of uterine contractions; arrest of progress without mechanical obstruction; elastic springing-back of the child between the pains; desire of the woman to sit up; depression of the uterus during the pains felt by placing the hand on the abdomen; and hemorrhage without laceration of the soft parts other than the placenta. In the case reported, hemorrhage was the only one of these symptoms present, and that was checked by the hot-water injections. There was no placenta previa. If the diagnosis of shortened cord had been made at the first visit, could anything have been done to save the child? Was a diagnosis of shortened cord possible under existing circumstances? Dyhrenfurth reported a case of "partial inversion of the uterus due to shortness of the cord," in which craniotomy was performed. The short funis was not recognized until after extraction. In Dr. Adams' case, the cord was long enough, but was shortened by the twists around the child's neck.

The placenta attracted the doctor's attention, but he deemed the history of the case important in its bearings upon such a peculiar looking after-birth. The fetal side presented nothing unusual, except the insertion of the cord near the points of detachment of the placenta, and placental veins greatly distended with black blood. The maternal surface was pale and covered with fatty-looking masses varying in size, some as large as a pigeon's egg. The two points of detachment were covered with clotted blood. In his opinion, the child was dead at his second visit. This opinion was strengthened by the woman's statement, that she did not feel the child move after the injection. Might the nodules on the maternal surface of the placenta be of syphilitic origin?

DR. SMITH expressed a doubt as to the syphilitic character of the nodules. Some years ago, Dr. Murphy had presented before the Medical Society two placentæ, one of which he supposed to be syphilitic, and the other healthy. They were referred to the Committee on Microscopy, who reported that both were healthy.

DR. ACKER said he had seen them; they had no nodules, nor in fact anything to show syphilis.

DR. A. F. A. KING said, on examination the placenta exhibited showed the cord inserted very near the periphery of the organ—"battledoor placenta;" from the history of the case we further learned that ante-partum hemorrhage began during the night or early morning, while the patient was in bed and without or before labor pains; furthermore, the placenta showed, in its circumference, near the insertion of the cord, and upon its maternal surface, a limited, dark-colored area, such as is found in placenta previa at the point of premature separation. From these facts, Dr. King was inclined to the opinion that Dr. Adams' case was

one of marginal placenta previa, the part of the placenta nearest the os uteri being that part to which the funis was immediately attached, as indicated by the dark area just mentioned.

In view of these facts, coiling of the funis might not have produced any practical shortening sufficient to produce the symptoms which Dr. Adams told us were absent. Had the placenta been placed near the fundus, with the cord near its centre, the coiling would then probably have led to practical shortening, and the symptoms would have told a different story.

The subject of

FECAL IMPACTION OBSTRUCTING LABOR

was introduced for discussion by

DR. S. C. BUSEY, who said the President had called upon him to fill a blank, there being no paper for the evening. He had hoped the specimen presented by Dr. Adams would prove of sufficient interest to occupy the evening; but, as he had received the request to select the subject, and at the same time to open the discussion, he would endeavor to do so.

There were several interesting and important subjects that have as yet not been before the Society, either of which he would wish to have discussed; they were puerperal mastitis, uterine colic, and the practicability and feasibility of rectifying head malpositions during labor by either Richardson's or Peorry's methods. Not having had time, however, to enter upon either of these, he had selected the one announced, and would give a case in practice illustrating it. Everybody, no doubt, had seen cases of fecal impaction. In women and children usually we found it in the rectum, and in the male the usual seat was at the ileo-cecal valve or sigmoid flexure. The female rectum, indeed, seemed to form a favorite reservoir for accumulation of feces, and it was rare to make a vaginal examination without finding some such collection in the rectum. These masses, as a rule, were not hard and firm, so as to fill the pelvic cavity, but were more or less boggy. The case to be presented was not unique, but rare, in its relations. He had seen a number of cases of fecal impaction before, but there was neither pregnancy nor labor. Thus, he had lately seen, in an elderly maiden, the rectum filled with feces to such a degree as to prevent micturition and the introduction of a catheter. The case of to-night was briefly as follows: The patient was in the prime of life, had had five children, and one miscarriage in 1884, which latter was attributed to excessive use of nutritive and medicated enemata for the treatment of vomiting. Again becoming pregnant, nausea and vomiting set in, relieved by liquid food *per os* and absolute rest. About the sixth or seventh month, she had suppression of urine, yet no alarming symptoms of uremia; still there was headache and epistaxis. Pregnancy continued to January 1st, 1886 (she expected to be confined about January 15th). At 3 P.M. of this date he received a note from her, stating that she had been ill all day, suffering from retention of urine. He found

her suffering greatly; she had only passed about two ounces of urine during the day, although frequently feeling the desire to micturate. Had taken licorice powder the night before, and told him that the bowels had been moved once and freely; also, that the pains were not those of labor, being continuous. Not having an elastic catheter with him, the doctor passed a silver catheter and drew off about four ounces of muddy, red urine. This gave no relief, and he had evidently failed to empty the bladder. On digital examination to discover the cause of this obstruction, he found the pelvic cavity occupied by a hard mass, which was extra-vaginal. There were no sutures, no fontanelles, yet the mass was as hard as bone. Could not feel either os or cervix uteri until he had passed the finger well up behind the symphysis pubis, when he discovered the os dilated and occupied by the bag of waters. At finding this, there flashed across his mind visions of the case reported here by Drs. J. F. Thompson, Hagner, and himself. For he could not at once determine whether there was both extra- and intrauterine pregnancy. There was the hard, immovable, rounded tumor in the rectum; and although he knew there was a fetal head above, and was satisfied that there was a fetus within the womb, yet he was not quite so sure that there was not one also outside of the womb. Introducing the finger into the rectum, he felt a hard, granular mass that filled the entire cavity. The patient said she had had a free stool in the morning, but that she had felt a fulness for weeks, which was not relieved by her visits to the commode. He was then satisfied he was dealing with a hard fecal mass, and so informed her. He could not break it by the finger, and hence desired assistance, and proposed to place the patient under chloroform in order to get rid of the accumulation. He called in Dr. Bromwell, and under chloroform broke down the mass, using Sims' depressor to comminute it, and then extracting the fragments by hand. As soon as the rectum was emptied, the uterus descended into the pelvis, and labor proceeded. The child was born, and the woman made an excellent recovery, there being no rise of temperature or other untoward symptoms. In an hour after delivery she passed a copious amount of urine, showing that the catheter had not emptied the bladder. This failure was easily understood. The bladder was pressed forward by the pregnant womb, and hence the catheter could not reach the fundus. Temperature never rose above 98.4°, and there was no local trouble about the rectum.

The first question here was one of diagnosis. One might readily have been misled in thinking the case one of suppression and not of retention, especially if the catheter only brought away four ounces of urine. Previous to the occurrence of the final attack she had a sense of fulness in the rectum as if she had not emptied the bowels; this was a feeling common to all cases of impaction. The diagnosis could only be rendered definite

by a digital examination, which represented the only positive and final method. Hence, in any given case, if there was difficulty or disturbance of micturition attended with a sense of fulness in the rectum, we were justified to make a digital examination to discover the connection, and this either during pregnancy or labor, and especially so during pregnancy. During labor it would certainly be discovered. Such examination brought to our knowledge the exact conditions leading to retention of urine. As to treatment: Suppose the state of affairs had been discovered at eight months; chloroform might have been administered and the impacted mass dislodged, or else enemata might have been resorted to to soften and gradually remove it. He did not believe that, in his case, enemata would have succeeded, for even after the mass was broken up the removal of the fragments by the finger would have been very painful, and could not have been accomplished without chloroform; so that he would advocate the latter procedure in all such cases. If the mass was soft and boggy, enemata would suffice. He preferred small quantities of water with glycerine or sweet oil, and had seen successive injections of six ounces gradually and effectually empty the rectum. He advised a small injection at night to be retained until next morning, to be then followed by repeated small injections. In pregnancy there was no doubt as to the proper procedure. If we found rectal accumulations before labor, they should be removed by enemata; but when labor set in and the rectum contained a hard mass sufficiently large to push the uterus up and preventing descent of the child, we must dislodge it by mechanical means. Had his patient believed herself to be in labor, she would have called him in sooner and would have been relieved sooner. The next question was, as these masses might be large and hard enough to prevent micturition, what would be the effect of failure to discover the cause, if by the use of the catheter we did not empty the bladder, and thought that there was no more urine in it? Might not a mistake and neglect result in the causation of cystitis or pyelitis, or other renal trouble?

In conclusion, he said that while the subject introduced might seem trivial to older practitioners, yet it could not be so to the young men of the profession, who might be misled by failure of catheterization or by the statement of the patient that she was not in labor.

DR. KING inquired as to the amount of fecal matter removed. (Dr. Busey said it would represent at least one pint.) Dr. King, continuing, said fecal impaction, whether occurring in men or women, was an interesting subject. In a discussion published in the *AMER. JOUR. OF OBSTETRICS* were given some remarkable cases. Thus one patient had not defecated for six months; others had gone from two to three months; some only evacuated the bowels two or three times a year. The late Dr. Hall, of this city, related a case of obstinate obstruction. The subject was a military gen-

tleman who boarded at the same house with Dr. Hall. One day the colonel, looking very melancholy, came to Dr. Hall and told him that his bowels had not been moved for three months. The doctor would hardly believe him, but ordered some compound cathartic pills which proved ineffectual. He then gave stronger cathartics, all to no purpose. Examination showed that the rectum was occupied by a fecal mass of strong hardness. The doctor went to work and broke off as much as he could from day to day, the patient's wife standing by and holding a plate for the reception of the fragments. On the nineteenth day she inquired of the doctor whether this was ever going to end? Finally all the mass was removed. Dr. King saw a gentleman a few days ago, and was informed that he had been constipated during last winter, he did not know how long, and even now he did not have a stool for twenty-five to thirty days. To return to Dr. Busey's case: He had never seen anything like it where the whole pelvis was filled with fecal matter, although all of us met with accumulations of feces more or less in quantity.

DR. G. W. JOHNSTON said that Dr. J. B. Hunter had reported a case where a fecal accumulation had been mistaken for an ovarian tumor. As to Dr. Busey's case, fecal impaction was more or less common, but it was uncommon as a complication of labor, and still more so as a positive impediment to the birth of the child. Rouyer (*Gaz. Hebdom.*, 1862) gave the history of a multipara who had never had any trouble at the birth of her children. In her last labor the head was arrested at the superior strait; the forceps was applied, and it required the force of three men to extract the child. The head was greatly bruised. In the delivery the recto-vaginal septum was torn through in two places. The cause of the dystocia was a fecal impaction which persisted for one month after labor and resisted all enemata. Finally an abscess formed in the perineum, requiring surgical interference; some feces were removed with a spoon, and the woman died thirty-six hours after the operation.

In the same article Rouyer mentioned a case to which Fournier was called in consultation by three students who, for five days, had tried to deliver a woman, 22 years of age, who had been constipated for five days. Fournier advised injections, but they could not find an anus; the latter was imperforate and the rectum opened into the vagina. It was punctured, and by injections they removed an immense mass of feces containing cherry stones. After this spontaneous delivery took place.

Pregnancy favored fecal accumulation and impaction, and they in turn might prove an obstacle to delivery. Even when delivery was possible, traumatic injuries were done the recto-vaginal septum from pressure of the child's head on one side and the fecal tumor on the other.

DR. BROMWELL was glad to have been a witness at so interesting a case as that reported by Dr. Busey, and could bear testimony to the skill displayed in the recognition of the trouble, and in the effectual manner of relief. He thought the quantity of fecal matter removed was nearer a quart than a pint. Its character showed that it had been in the rectum for some time, for it was of calcareous hardness. He agreed with Dr. Johnston that the literature on the subject was scant. Dr. Bromwell had a case of fecal impaction (not in pregnancy) in a lady which was mistaken for a

fibroid, although she had a fibroid also. She had a regular stool every day, there being a central passage through the mass permitting passage of fecal matter from above. Ordinary enemata having failed, he tried cathartics, finally ox-gall by enema, which caused terrible straining without dislodging the mass. He then took a Sims' depressor and succeeded in removing the mass piecemeal in three days.

DR. BUSEY, in closing, said he was indebted to Dr. Johnston for a presentation of the cases, which showed that they were even more dangerous than he had anticipated, especially when the forceps were applied before the fecal mass was dislodged. He had not thought that such cases could occur, inasmuch as examination would show the impaction. One symptom he had omitted to mention—the odor of the finger after coming in contact with the fecal mass. The danger shown in Dr. Johnston's cases, especially the rupture of the vagino-rectal septum, from compression between the head and the fecal mass, made the subject still more interesting.

TRANSACTIONS OF THE GYNECOLOGICAL SOCIETY OF CHICAGO.

Meeting, Friday, June 18th, 1886.

The President, DANIEL T. NELSON, M.D., in the Chair.

DR. W. W. JAGGARD exhibited

A GRAVID UTERUS WITH ADNEXA, CORRESPONDING TO THE SIXTH MONTH.

The material was placed at his disposal through the courtesy of Dr. H. H. Frothingham, one of the resident obstetricians of Cook County Hospital.

The patient, 30 years old, multipara, came under observation May 17th, 1886. While sitting on a chair in the ward, she began to show signs of asphyxia. She was immediately put to bed, but died within five minutes of the beginning of the attack.

Autopsy made after forty-eight hours showed some congestion of envelopes of brain and at posterior margin of *tentorium cerebelli* two small, round, firm tumors intimately attached to the *dura mater* and pressing upon cerebellum at posterior internal angle of each hemisphere. Tumors are each about the size of a filbert, upon section presenting a grayish firm surface at periphery, and a disintegrated portion at the centre. Cerebellum.—Soft and pale throughout, *arbor vite* appearance almost entirely disappeared. No trace of hemorrhage or embolism discovered. Ventricles of cerebrum contained little fluid.

(Tumors referred for microscopical examination.)

Abdomen.—Peritoneum apparently normal. Gravid uterus with fundus extending to the level of the umbilicus. Large corpus luteum in left ovary. Upon opening the uterus, a male fetus, in the embryonal position, was found. Placenta separated from the uterus by its own weight and without any effort to detach it.

Dr. Jaggard desired to call attention to the condition of the cervix. The cervix is a funnel-shaped object, the neck of which measures 4 cm. in length; thickness of wall, 2 cm. The upper expanded portion measures 1.5 cm. in length; thickness of the wall 1.5 cm. The mucous membrane lining this funnel-shaped cervical canal differs in its macroscopic characters from the mucous membrane lining the uterine cavity. The cavity of the cervix is filled with a white coagulated secretion. The insertion of the membranes forms a circle around the upper expanded portion of the cervix, about 7 cm. in diameter, corresponding to the site of several large veins in the muscular substance of the uterus, and the insertion of the peritoneum externally. At this point, the muscular substance of the uterine wall becomes thinner. The average thickness of the muscular wall of the uterus is 1 cm.; that of the cervix 1.5 to 2 cm. Total length of the uterus, 17 cm.

The macroscopical characters of the preparation seemed to sustain the position assumed by Bandl, Kuestner, and Carl Braun, recently opposed with considerable force by M. Hofmeier. Dr. John Bartlett, a distinguished Fellow of the Society, read a paper entitled "The Cervix Uteri Before, During, and After Labor," July 14th, 1873, before the Chicago Medical Society (several years prior to the appearance of Bandl's classical monograph upon the same subject) from which the following extract is made:

"Early in pregnancy the neck of the uterus is called upon to supply its quota to the enlarging body. Speaking somewhat figuratively, as ring after ring of tissue is demanded from the upper part of the cervix, the preparatory development in the remaining portion is such that the length of the neck is not apparently impaired, so that what remains of it as late as two weeks before labor has been mistaken for the entire infra- and supra-vaginal cervix, whilst the loss by the continual transfer from the upper portions of the neck to the uterine walls has entirely escaped notice. That circle of the neck which corresponds at the time of an examination to the limits of its expansion, is regarded by writers as the os internum. The os internum is, of course, as before labor, above the attachment of the vagina, and, near term, far removed from the examining finger. The apparent constriction taken for it is simply that point in the cervical walls marking the constantly decreasing line of demarcation between the expanded and yet unexpanded portions of the neck."

DR. A. REEVES JACKSON, in beginning the discussion on Dr. Parkes' paper on the treatment of uterine fibroids by ergot, said: "I was very much pleased to hear the reading of Dr. Parkes' paper. I commenced using ergot in the treatment of fibroids in June, 1873. I had used it in eight cases at the time Dr. Byford read his paper based on 103 observations gathered from various

¹ The Chicago Medical Journal, October, 1873.

persons in this country. I was extremely pleased with the result; two of the patients seemed to be practically cured—that is to say, while there could be distinguished some remaining enlargement of the uterus, the symptoms that were referable to the presence of the tumor were entirely removed, and the patients suffered no inconvenience from the bulk of the uterus. In nearly every case there was improvement. I continued to use it for several years, but have not used it lately—I do not know why. The cases that have been published by those who use it extensively have all shown favorable results except those of Martin, of Berlin, and perhaps two or three others. There seems to be no reason to doubt that ergot, whether given hypodermically, by the mouth, or rectum, does have some controlling influence on the development of uterine myomata, checking the growth or lessening the size of the tumor. Indeed there is reason to believe that it is one of the very best means of dealing with these tumors. I have used the remedy in perhaps thirty cases. I do not know just what the ratio of success was. In about three-fourths of these cases there was benefit. Sometimes the good effect did not consist in diminution of the size of the neoplasm, but was from improvement in the general health of the patient. I was very glad to hear of the almost phenomenal success that followed the practice of Dr. Parkes. In some of the cases he relates the patients were, however, evidently in great jeopardy from the sloughing of the mass, and the difficulty of getting it away before septicemic symptoms came on. There is great danger unquestionably in having a sloughing fibroid retained within the uterus. The treatment by ergot should be accompanied by dilatation of the cervix, so that the mass, when separated from the wall of the uterus, may escape readily. This would lessen that danger. In some cases, death has occurred very soon after the stinking discharge appears. Nevertheless, the treatment by ergot is very much less dangerous than any of our surgical methods of dealing with uterine fibroids.

THE PRESIDENT.—Have you kept records of any of your cases?

DR. JACKSON.—Yes; and I shall be glad, if the interest continues, to report them in detail. I kept accurate notes of the first cases, so far as I had charge of the patients. Some of them occurred in the Woman's Hospital, and the patients would go away, and we did not always have means of ascertaining the final results. But of others, occurring in private practice, I can give accurate details.

DR. H. T. BYFORD.—I made the assertion that there was no danger of a sloughing of the tumor when it is not situated so that it can be expelled by way of the vagina. This was based on the fact that, unless submucous, it cannot be firmly enough compressed. I have reported a case of fibroid tumor of the vagina,¹ whose thick pedicle was gradually cut through by daily tightening a fine wire about it; when the wire had cut through the pedicle, it was found to have reattached itself, and retained its vitality, showing that tumors of this nature require very little nourishment to keep them from undergoing sloughing. The cases on record are very few in which subperitoneal growths have sloughed from the use of ergot.

DR. W. W. JAGGARD said, with reference to priority in the use of ergot in the treatment of uterine fibroids, that Hildebrandt, of

¹ Chicago Medical Journal and Examiner, August, 1885.

Königsberg, had published a paper in 1872 in which he recommended the drug. The growth of the neoplasm was limited by diminished access of blood, and in some cases it was actually expelled from the uterine cavity. Hildebrandt's recommendation was the revival of an old practice. Dr. Wm. H. Byford's paper, "Address on Obstetrics," was read in Philadelphia in 1875. During the interval of three years, several papers were written extolling the action of ergot in the treatment of uterine fibroids, both in the diminution of the quantity of blood flowing to the tumor and also in actively causing its expulsion from the uterus.

DR. HENRY T. BYFORD said: Dr. Jaggard fails to take into consideration the different ways in which ergot acts. It acts, first, in a radical way, by expelling the tumor, as in the submucous variety; second, in a gradual way, by causing atrophy and absorption, as in the interstitial variety; third, in a partial way, by arresting the tumor's growth and activity, as in the subserous ones; fourth, in a palliative way, by relieving the symptoms, as in cases of large tumors, near the menopause. Schroeder, in the last edition of his "*Krankheiten der weiblichen Geschlechtsorgane*," gives Dr. Wm. H. Byford credit for suggesting the use of ergot for the expulsion of the tumor. There is no longer any reason to doubt that ergot is the surest and safest cure for all but the very exceptional cases of uterine fibro-myomata. A tolerance of moderate doses is quickly established both by the organs through which it is absorbed and by the general system. Sloughing is almost never produced, except in the submucous variety, when it need not be dangerous. For several years past, with one or two exceptions, I have not given ergot in any other way than by the rectum. I use five to eight grains of Squibb's extract of ergot twice a day, and continue it for two or three years, with favorable results. I remember one case in which the tumor extended almost to the umbilicus when I first saw her, five years ago. It was an irregular, nodulated tumor, mostly subperitoneal, with projections larger than the fist, filling up the pelvis, and to a great extent the false pelvis also, and sometimes caused excruciating pain by its pressure. The patient had repeatedly bled through eight and six weeks, and must have lost one hundred pounds. Tampons were required to save her life. I never saw paler mucous membranes in a living being. It was a very much worse case than many which I continually find cited in medical literature in which hysterectomy is considered necessary. The patient begged to have the tumor removed. She could not take the ergot for any length of time, either by rectum or mouth; but after a while she tolerated five-grain rectal suppositories, and has passed the menopause. The tumor, having lost its activity, has become considerably smaller; while she, having regained her one hundred pounds, has become considerably larger. I have a case which had been treated for a year with all of the most approved remedies, except ergot. When I first saw the patient, two years ago, she weighed eighty-three pounds; she had a nervous chill, and almost fainted when I first entered the room, because I was a stranger. She had not slept for weeks except under the influence of narcotics, and had symptoms of acute tuberculosis. She was in the habit of bleeding steadily from three to six weeks, and was being so rapidly destroyed by the loss of blood that I at first had to use the tampon. She was put upon eight grains of Squibb's fluid extract of ergot per rectum, and tincture of iron by the mouth. Her health im-

proved rapidly, and the hemorrhages progressively diminished. Her lungs were recently examined by Dr. E. A. Johnson, who found the remains of old trouble, but no tendency to unfavorable changes. Her cough, which had lasted so long, has entirely left her. She now takes the ergot a part of the time only. Her menses last four days, are natural in quantity and quality, and are followed every two or three months by a watery discharge of a faint pinkish tinge. She cannot feel the tumor now, although a projection the size of a child's head was formerly felt by her between the umbilicus and left groin. It might be said of this case that it was also a very proper one for operation, and one in which ergot, if harmful to the system, would have done injury. I have similarly relieved other cases nearly as bad, and cannot help believing that, when treated early, judiciously, and persistently by ergot, fibroid tumors of the uterus will show a mortality of one or two per cent. instead of ten per cent, as at present; that hysterectomy for fibroids, with its mortality of twenty to forty per centum, will eventually become an interesting relic, and the removal of the appendages a precious rarity.

DR. E. W. SAWYER said: There is one point that was not alluded to by the reader of the essay, and that has not been spoken of in the discussion. The fact that the point has been proved in practice shows that it is worthy of attention. That ergot will cause atrophy of a uterine fibroid, causing a detachment by ulceration and expulsion, is a well-established fact. When the fibroid is submucous, or nearer to the mucosa of the uterus than to its peritoneal surface, I have no doubt that that process can be continued and completed with safety. But let us suppose a tumor very close to the peritoneal surface; this process of atrophy takes place, the peritoneum ulcerates through, and the life of the woman is jeopardized. Such a condition occurred in a patient seen by the President of this Society, and it was shown that, had the patient lived long enough, the fibroid might have been thrown off through the abdominal parietes. This patient died of peritonitis. The large and partially detached fibroid was in a sac containing a great quantity of pus. This sac had ruptured, occasioning the peritonitis.

DR. F. E. WAXHAM said: I would simply add my testimony as to the value of ergot in the treatment of submucous fibroids, by citing a case: A woman 45 years old came to me some time ago complaining of copious hemorrhages at her menstrual periods, and upon careful examination an enlarged uterus was found, which nearly reached the umbilicus. The diagnosis of fibroid of the uterus was made. This woman was placed upon ergot, combined with opium, to control the pain, which she took for several weeks. Between the second and third months after commencing to take the ergot, I was called to her in great haste and found her apparently in labor, the uterine contractions quite regular and very severe; a partially dilated os and the tumor presenting. This tumor was expelled after two or three hours. It was nearly as large as a child's head at time of birth. The patient made a complete recovery.

THE PRESIDENT.—In what state was the tumor?

DR. WAXHAM.—I can hardly say it was softened, but it was fleshy in character, and some pus upon it as though it had suppurated. It was somewhat offensive, I remember. I attended her for some weeks subsequently; there was some febrile reaction, but no serious trouble followed.

THE PRESIDENT said: I have reported a case in which a tumor was thrown off without sepsis. I have had since quite a series of cases in which tumors have been thrown off; some have been absorbed and there has been a various history, which I hope to make the subject of a special paper, and would like the assistance of others in making up a history of these cases. I think we are specially favored in having with us Dr. Wm. H. Byford, who has had such extended experience in these cases.

DR. WM. H. BYFORD, in closing the discussion, said: Mr. President, you are right in supposing that I feel great interest in this subject. I have made it a study for a long time. Perhaps as good a way as any to introduce my views on this subject to the Society will be to go back to the commencement of my own researches in this matter. In 1872, as Dr. Jaggard has said, Hildebrandt commenced a series of experiments for checking the hemorrhages connected with fibroid tumors of the uterus, by giving hypodermic injections of the extract of ergot, and succeeded in a great many instances in suppressing the hemorrhage and relieving the patient from the inconvenient symptoms. During these experiments, he also ascertained that the tumor would sometimes disappear. I think his statistics were not large, and that he only reported a very few, perhaps three or four, cases in which the tumors disappeared by atrophy during the time he treated them in this way. In 1874 I was elected to the chairmanship of the Section of Obstetrics in the American Medical Association, and as these experiments of Hildebrandt had attracted considerable attention, I thought it would be a good time to make some investigations as to the value of his facts. I commenced correspondence over a large portion of the United States and Europe, but especially communicated with my friends in this part of the country, among whom were my immediate associates in this city, who had been engaged in using hypodermic injections of ergotin according to the method of Hildebrandt, once in two or three days. All of them bore testimony as to the efficacy of that kind of treatment, and as to the fact that these tumors could be made to disappear in a great many instances by atrophy, and in a great many more the symptoms could be relieved so that the patient was rendered comfortable, the presence of the tumor giving them but little inconvenience. Some of the gentlemen with whom I had correspondence had been using ergot in different ways, giving it by mouth, giving it per rectum, and injecting it into the tumor itself, and by various other methods. I noticed one fact in my own practice and that of my friends, which was that the more frequently the ergot was given the more powerful its action was. In giving it two or three times a week hypodermically by the Hildebrandt method, there is very little distress produced by it; but the tumor may gradually disappear and the symptoms get better. I collected 103 cases from different parts of the country, and in all of them the attention of the practitioner was directed to the point of causing the disappearance of the tumor by atrophy. During the time I was making these investigations, cases of fibroid tumors occurred in the practice of my friends, who consulted me. One was a remarkable instance in the practice of Dr. Merriam. I remember the particulars. The patient was a little Irish woman who had a tumor almost large enough to reach to the umbilicus. He commenced the use of ergot in Sept., 1874, twenty drops of Squibb's fluid extract three times a day. It produced so much contraction of the uterus and so much pain

as to alarm the patient and the doctor himself; he thought these pains ought to be suppressed, and as a consequence he would intermit the use of ergot, give anodynes to stop the pain and get relief from the sufferings of the patient, but would recur to ergot as soon as his fears had subsided. In January, 1875, he directed her to recommence the ergot and increase the amount. He gave her, I remember very well, twenty-five drops of Squibb's fluid extract three times a day. In March, which was about two months from the time he began giving her ergot in that way, the patient commenced having expulsive pains very much like labor, and not long after that, probably about March 20th, there commenced to issue from the vagina a putrid liquid that was very offensive and which contained small pieces of organized substance. He became alarmed and entirely withdrew the ergot, supposing he was doing mischief, but the death of the tumor had been produced and as a consequence the uterus continued its action to throw off this foreign body, until April 5th, 1875, he was summoned in great haste to see his patient. I was also summoned. Upon arriving at the house, which he did before me, he found the tumor expelled, part of it lay in the vagina and part between the limbs of the patient, a protruding mass almost the size of a child's head. It was not expelled in a lump, but was broken in pieces that would represent that size. The patient at that time had septic fever, with increased temperature and increased frequency of pulse, etc. The doctor and I both felt uneasy about her, but she very soon rallied and in a short time was well, and since has given birth to a child.

That was my first observation as to expulsion of tumors of that kind. It started a train of thought in my mind and led me to think about increasing the ergot beyond the amount that had usually been given for producing atrophy. In the same year, July, 1875, I commenced giving it with the view of expelling a tumor. I gave my patient at first fifteen-drop doses of Squibb's fluid extract three times a day, and increased it until the patient was taking a teaspoonful of ergot three times a day. On August 15th, about five weeks after I commenced using it, the tumor was broken up and expelled from the vagina. It was expelled by pieces; the first piece about as large as my thumb, of a grayish kind of substance that smelled very badly. The action continued; I was somewhat alarmed and gave the patient anodynes, but the uterus had already commenced to act on the tumor and expelled it, as it would any foreign body. In December of the same year I had an opportunity of repeating the experiment, and the case terminated in the course of six weeks, by the same method of administering the ergot. In 1876, on returning from the world's exposition at Philadelphia, I was requested to call at Coldwater, Mich., to see two patients, one with cancer and one with a tumor. I found one of these patients with a tumor as large as my head, the measurement of the cavity being fully six inches. I told her I believed the tumor could be expelled if she was willing to go through the process. I felt uneasy, however, to leave her to use such medicine by herself, and tried to teach her how she should proceed when the expulsion should take place. She took the ergot three months without much effect, except that occasionally she would have a paroxysm of pain; after that, however, the pains became so very severe that she could not take the ergot much of the time. But, brave and intelligent as she was, she repeatedly resumed it, and finally the tumor commenced to come away. It came away in

about five weeks from the time the first symptoms of expulsion occurred. She wrote me a description of the method of expulsion. She said at first small lumps made their appearance and passed out of the vagina; after the second day they became larger, and on the third and fourth days they seemed large enough to fill up the vagina. With her scissors she cut off pieces of it and pulled at it to assist its removal. She labored at it two or three days until it was all expelled. In about three weeks thereafter she came to see me, and the uterus had shrunk back to near its natural size. She has since had the menopause, and is now in good health. She sent me at that time a quart cup full of this expelled fibrous substance.

Another case occurred in the western part of this State, under the care of Dr. Crandall, of Sterling. The patient came, by his directions, to see me, and I found a tumor of considerable dimensions and advised her to take ergot. She went home and in about fifteen or twenty days got her work done up, as she expressed it, took three doses of thirty drops of Squibb's fluid extract of ergot, and started up such a process of expulsion that, notwithstanding the efforts of her physician to stop it, the pains went on to the expulsion of the tumor, which was completed in about three weeks.

Dr. Wm. Fox, of Milwaukee, three years ago sent me a report of another similar case. In summing up these observations, I have known personally of twenty-six cases of expulsion of the tumor in this way. With reference to the dangers connected with the expulsion, I would say that only one out of these twenty-six cases proved fatal. They all had septicemia to some extent, but as soon as the mass of dead tumor was removed, the patient commenced to recover and got well. Some of the patients had no assistance. This one patient in whom it proved fatal lived in Monmouth. It occurred about six years ago. She was a lady who, like other foolish women, distrusted her home physicians, and she came here, supposing she would find better treatment. I advised her to take ergot, and in about three months the pains commenced that caused the tumor to be expelled. She came here with the lower part of the tumor hanging from the vagina and uterus, while the upper portion was clinging to the cavity in which the whole of it had been lodged. She was then laboring under a high fever. The smell was terrible. She came to the Tremont House, and it was several hours before I could see her. When I arrived it was a very simple matter to enucleate it, and I removed it in a few minutes. But she had already received a fatal poisoning from the retention of the dead tumor. This is the only case I have known to prove fatal. I do not get a history from other gentlemen of any more unfavorable results. They all tell me they are frightened at the symptoms, and they are afraid the patients are going to die, but they do not die. When the mass is taken away and the vagina washed out, the symptoms disappear. Since thinking of this matter and observing the effects of this remedy, I have thought I could come to definite conclusions as to the conditions under which we might predict the expulsive effects of ergot by the appearance of the tumor. You know that it is not a very common thing to find a case in which there is a single tumor in the fibrous tissue of the uterus. More frequently these tumors are complex, quite a number of nuclei of formation; we often see in one uterus four or five, sometimes fifty different points of solidification. Now a single, or even a double tumor, located within the circle of the fibrous arch of the uterus

near the mucous membrane, is the kind that I think may almost certainly be expelled. If you find a case of symmetrical development, where the uterus seems near its normal shape, no matter how big, so it is normal in shape, oval, or globular, without any large projections standing out in various directions, feeling somewhat elastic to the touch, and attended with hemorrhage, you may be pretty sure you can expel the tumor by commencing with small doses of ergot and increasing them in size, and then when the pains begin, not to stop them. The presence of severe pains frightens a great many men from finishing what they have begun. If I were to try to explain this operation, I would say when ergot is given in this way, after a while the tumor becomes starved, the supply is cut off so there is not blood enough to support it, and very soon it dies in consequence of the strangling process. When it dies there is, at the same time, gangrene of the mucous membrane covering it; then it becomes a foreign body and you cannot keep the uterus from expelling it. The expulsion is a consequence of this starvation and killing process in the tumor. As to the action of ergot in tumors that are not submucous, of course I know that tumors not submucous cannot be expelled. There is what is called the interstitial tumor, developed in the central stratum of the fibrous walls of the uterus; these are the proper subjects of the Hildebrandt process for atrophization. Then with reference to the effect of ergot upon subperitoneal tumors. I have often been asked the question, Can ergot affect the subperitoneal tumors? I think they are frequently starved out and cured; when not too near the peritoneum there is no danger of their becoming detached and putrid in the peritoneal cavity, because the action is from the tumor. In the submucous tumor, the contractions are all towards it and none from it. There is one circumstance to be taken in connection with these tumors and the action of ergot upon them, that has not been sufficiently considered. A large proportion of them growing to any considerable size contract attachments to the peritoneal membrane, the intestines, omentum, or the walls of the abdomen, and in making this attachment they get a new supply of blood, which makes the life of the tumor more tenacious than it would be otherwise. This very process of adhesion to the walls of the abdomen is, more than any other, the cause of their great size and the change from a fibrous to a fibro-cystic tumor. We need not expect such tumors to be affected by ergot. There are a good many other things that interfere with the successful use of ergot, of which I cannot now speak. I am grateful to my western associates who have assisted me by facts and experiments on this subject. If you go to the eastern part of the United States they will tell you that ergot is of no use in the treatment of fibrous tumors, or it is too dangerous; the patient cannot live under the pains of expulsion, etc.; but if these same gentlemen had a patient in labor they would urge the pains instead of stopping them. Most physicians who do not believe in the efficacy of ergot, use Hildebrandt's method pretty much altogether, which produces tonic contraction of the fibres of the uterus, but does not go to the extent of causing expulsive pains. Then, again, there is too great apprehension on the part of the profession generally of the dangerous poison of ergot. I do not know whether the history we have of the poisonous influence of ergot in producing nervous diseases, gangrene, and so on, is true; whether the observations that led to that teaching were correct at

one time or not, but I know that, after the use of ergot persistently for two or three years in the same case, I have never seen any evil influence produced by it, unless it is in cases where the violent action of the uterus would be regarded as such. I have purposely avoided saying anything about the *modus operandi* of ergot in causing contractions in the uterine fibres, because that is now sufficiently understood by the profession. But, Mr. President, I feel that I have occupied too much of the valuable time of the Society already, and will say no more.

A STUDY OF THE CAUSE AND TREATMENT OF PELVIC HEMATOCELES.¹

The discussion of Dr. Byford's paper was deferred until the next regular meeting.

TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF LONDON.

Stated Meeting, June 2d, 1886.

The President, DR. POTTER, in the Chair.

The following specimens were shown :

1. *Fibroids in Twin Pregnancy*, by Dr. John Phillips.
2. *Fetus and Placenta from Extrauterine Gestation Removed by Abdominal Section*, by Dr. Herman.
3. *Ovarian Tumor and Fibro-Myoma Uteri Removed at the same Operation*, by Mr. Knowsley Thornton.

Papers:

NOTE ON THE ARTIFICIAL PRODUCTION OF SO-CALLED "LYMPHATIC VARIX."

By DR. F. H. CHAMPNEYS.—The object of the author was to determine whether so-called "lymphatic varices" could not be produced at will by the simple expedient of cupping striæ in the skin which were not edematous. If this produced appearances which could not be distinguished from so-called "lymphatic varices," it would tend to prove that these are really due to general lymphatic edema, showing most plainly over the least supported parts of the skin, and not to any peculiar arrangement of lymphatics, nor to obstruction of any particular lymphatic trunks.

This was proved to be the case.

The author concludes that "lymphatic varix" is a misleading expression.

DR. HERMAN said that Dr. Champneys had spoken in his paper of "lymphatic edema," and of "edema" in his remarks. He asked whether the alternative mode of expression was simply for

¹ See original article in next number.

brevity or whether it illustrated his view as to the nature of the fluid filling the cracks. He believed with many others that in phlegmasia dolens there was not simply edema from venous obstruction, but there was obstruction in the lymphatic system of the limb. There was little direct proof of this, but there were strong arguments from analogy in its favor. Dr. Duncan's case was important, for, if the fluid in the varicose skin-cracks were lymph, it furnished some direct evidence that there was obstruction to the return of the lymph from the limb. Did Dr. Champneys consider that his experiments had any bearing on this question? When he spoke of "edema" did he mean the swelling that resulted from altered pressure relations in the capillaries, or did he mean by "lymphatic edema" that the fluid had been exuded from the lymphatic vessels?

DR. M. HANDFIELD-JONES called Dr. Champneys' attention to three cases of dilatation of lymphatic radicles which were in St. Mary's Hospital, and were published in the *Lancet*, August 7th, 1875. They closely resembled that of Dr. M. Duncan. Mere edema was not sufficient to produce the appearances described. Some active pathological condition attacked the small spaces from which the lymphatic vessels started, and spread thence along the larger canals. It was noteworthy that, considering the frequency of edema of the lower limbs, the appearances described in the cases referred to were rare.

DR. CHAMPNEYS said that Dr. Griffith had misunderstood the gist of his paper. It was an argument that the so-called "lymphatic edema" was not a special affection of lymphatic vessels, but was merely a general edema, showing most plainly at the weakest parts of the skin. Dr. M. Duncan (from whom Dr. Griffith also differed) had expressed his opinion in the words quoted from his paper, and Dr. Champneys had endeavored to prove by experiment the correctness of this opinion. Therefore Dr. Griffith agreed with Dr. Duncan and Dr. Champneys. To Dr. Herman Dr. Champneys replied that he meant ordinary edema, and not any special affection of the lymphatic vessels.

No report of Dr. Griffith's remarks was received before the report of the meeting was sent to the journals.

NOTE ON ONE OF THE CAUSES OF DIFFICULTY IN TURNING; WITH REMARKS ON THE PRACTICE OF AMPUTATING THE PROCDENT ARM.

By DR. G. ERNEST HERMAN.—The author describes difficulty in turning due to impaction of the point of the shoulder below the imperfectly dilated internal os. In these cases there is no great difficulty in seizing the lower extremity, but when this has been done, the condition described prevents the child from rotating. The proper way to overcome the difficulty is to press the point of the shoulder towards the middle line of the cervical canal, and thus disengage and raise the shoulder. When this is done the child is easily turned. The author then refers to the writings of those who have advocated amputation of the arm in cases of transverse presentation which cannot be turned, on the ground that turning becomes easy when this has been done. He believes that these cases were of the kind now described by him, and that the amputation of the arm was effective by removing the resistance offered by the im-

packed shoulder. But he did not think amputation of the arm was proper in such cases, for the child could be turned if the point of the shoulder was disengaged in the manner he had described, and if the child were dead, decapitation was better than amputation of the arm followed by turning.

DR. GALABIN did not think that the internal arm could prevent the shoulder being pushed directly upwards. It might, however, prevent its ascent when the attempt was made to turn as described by Dr. Herman, by acting on both poles of the fetus at once, for this would move the shoulders not only upward, but also outward, and it would be more likely to be resisted by the projecting ring. He had never had occasion either to cut off the arm or push the shoulder, and he had only once met with a case in which it was impossible to turn, and he had to decapitate. In this case a shoulder had been mistaken for a breech, and expectant treatment continued for two days. He believed that there was no case in the records of Guy's Hospital Charity in which turning was impossible, and alternative embryotomy became necessary. Where it was necessary to act on both poles of the fetus, he would make the action *alternately*, pulling down a leg and pushing up a shoulder.

He asked if Dr. Herman had been always successful with his method, or whether embryotomy was still necessary sometimes?

DRS. BOXALL, CHAMPNEYS, PLAYFAIR, CLEVELAND, and the PRESIDENT also made remarks, and Dr. Herman in reply said that he did not assert that the condition described in his paper was the cause of difficulty in every case, but that on the contrary he thought it an occasional and rare source of difficulty.

There was in these cases a little difficulty in bringing down the foot, but much in turning the child; while where the uterus was contracted tonically round the child there was difficulty in getting the foot. He agreed with Dr. Galabin, and had pointed out in his paper that the difficulty was augmented by pushing up the shoulder while pulling down the leg. The defined swelling of the shoulder which was present showed that it had been encircled for a long time. He had felt the contracted ring above the shoulder. He adopted in turning the plan advocated before the Society in a valuable paper by Dr. Galabin, *i. e.*, he seized the most easily accessible foot.

Attempts at turning had been made under anesthesia in one of his cases for three-quarters of an hour; in the second, anesthesia was not employed, and he did not remember as to the third.

FOUR CASES OF SPURIOUS HERMAPHRODITISM IN ONE FAMILY.

By DR. JOHN PHILLIPS.—The author gave the family history; out of nine pregnancies the fourth, sixth, eighth, and ninth were hermaphrodites. Fright during the third month of pregnancy in mother's opinion caused the first. None of them survived more than a few days, and the author had an opportunity of post-mortem examination; he laid the results before the Society with all the more important parts dissected out. The family antecedents were very carefully gone into, many of them being personally examined. Several defects, such as hernia and the like, had been discovered. A genealogical tree was appended. The author gave

an historical view of the whole subject. There appeared two causes at work on the mother's side in the production of this deformity. (1) The initial fright which she received when pregnant with the first. (2) The continued dread and mental distress which ensued on her bearing a deformed child.

Conclusions: (1) A hernial or other weakness present in one parent, acting as a predisposing cause, any deep maternal impression received about the third month might induce some impediment to the proper differentiation of the urogenital system. (2) That a distinct tendency towards bearing hermaphrodites might be developed in a mother who had already borne one.

DR. M. HANDFIELD-JONES asked as to the relative frequency of sterility in these spurious hermaphrodites. It was a law of evolution that in hermaphrodites one set of organs atrophied in proportion to the development of the other; and, so in cases with a large clitoris, imperfect uterus and ovaries might be expected.

DR. CLEVELAND mentioned that he had a patient with only one testicle descended, who was the father of a large family, none of whom were deformed.

DRS. JOHN WILLIAMS, WILCOX, CHAMPNEYS, and GALABIN also made remarks.

DR. JOHN PHILLIPS in reply said that he thought specimens of spurious male or female hermaphroditism were not uncommon, but that four in one family was unique. The father was the elder of the two parents, but his exact age he could not remember. He could not throw any light on Dr. Handfield-Jones' queries.

TRANSACTIONS OF THE FIRST MEETING OF THE GERMAN GYNECOLOGICAL ASSOCIATION.

HELD AT MUNICH, JUNE 17TH, 18TH, AND 19TH, 1886.

(Concluded from p. 1001.)

Third Day—Morning Session.

President, DR. WINCKEL.

DR. SCHAUTA read a paper on

THE OPERATION FOR RECTO-VAGINAL FISTULÆ.

He first discussed the methods used in the treatment of these conditions: freshening from the vagina or rectum, division of the recto-vaginal septum below the fistula, and perineoplasty. These fistulæ are said to be more difficult to cure than vesico-vaginal

fistulæ. Winckel alone holds the opposite view; he believes that they do not always close after the first operation because the recto-vaginal septum is very thin, the surfaces to be freshened are narrow, and the rectum cannot be completely disinfected. The reader had likewise had a case in which various methods failed. In this case, the vagina being wide and relaxed, he performed colporrhaphy, instead of dividing the septum below the fistula. Only at the bottom of the wound was the fistula united by catgut sutures which, however, did not pass through the rectal mucosa. The operation succeeded. In his second case, the vagina being likewise wide and loose, he at once freshened the surfaces according to Hegar's method; the fistula was situated about midway between the middle and lower portions. The advantages of this operation are: broad freshened surfaces are obtained, the vaginal side alone is freshened, and the rectum not touched, the recto-vaginal septum is reinforced and a barrier interposed to prevent the entrance of the rectal contents into the vagina, and finally the relaxation of the vagina is removed. The method will not be feasible in every case. Not every vagina is relaxed, and not every fistula, especially if large, will be suitable for it; but then most fistulæ are not very large. Finally, only fistulæ situated in the median and lower thirds are liable to be benefited by the operation; those higher up, only if the vagina is very loose.

DR. MUELLER.—In many cases, the same cause which led to the formation of the fistula prevents both the closure and colporrhaphy; cicatricial degeneration of the posterior wall taking place. Otherwise he held the operation to be good, since it permits broad surfaces to be freshened and a double row of sutures to be inserted.

DR. HIRSCHBERG thought the method was nothing but a broad, flat freshening, such as Wilms performed for vesico-vaginal fistulæ. If this freshening is to be extended into a colporrhaphy, dropped running catgut sutures should be employed because the entire wound surface could thus be better united.

DR. SCHAUTA had never observed cicatricial alterations in his cases. The case is different with vesico-vaginal fistulæ caused by long-continued pressure. Recto-vaginal fistulæ are due to excessive distention; cicatrices need not occur.

DR. KUESTNER (Jena) read a paper on

PERINEOPLASTY.

He first emphasized the necessity of stitching every perineal laceration, be it ever so small. The anterior portions of the perineum support the anterior vaginal wall; where they are defective, slight descensus takes place also on the posterior wall, owing to the great succulence at the time the laceration takes place. Leucorrhœa, pruritus, and nervous disturbances, due to perineal wheals, may likewise ensue. Where retroflexion of the uterus is present, perineoplasty is still more strongly indicated, as no pessary would otherwise stay in place. Among 57 cases of perineal

laceration, retroflexion was present in 23 (40%). The reader then considered the methods of operation usually practised (triangular and flap operations), and declared himself in favor of that of Freund, because most perineal lacerations are not median, but run upward along the rugous column into one or two points. Freund's is preferable to Bischoff's method because it reproduces natural conditions, and a frenulum is formed. In the reader's 57 cases the laceration was nearly median in 14, in 4 of these, there was also a median tear in the cervix; these cervical lacerations complicated 21 cases. If the two-pointed method is the best for partial perineoplasty, it is undoubtedly so for the total operation. All failures are due to the unnatural features of the methods, parts being forced to adhere that do not belong together. The advantage of Freund's method is, that it renders possible the anatomical reunion of the parts. For suture material, silver wire or silk worm-gut is to be recommended. Catgut does not hold long enough; Czerny's silk is good, but it drains both out of and into the wound; slight suppurations may occur as the consequence of the capillary attraction of the silk sutures. Silk worm-gut does not share this quality, and the reader has not observed any suppuration with it.

DR. KORN (Dresden) read a paper on

PERINEOPLASTY.

He had sifted the material of the Royal Lying-in Institute and reported on 35 cases of complete perineal rupture. Lacerations affecting only the sphincter ani were excluded. 33 patients or 94% were cured, *i. e.*, discharged with complete continence. One patient, in whom a recto-vaginal fistula had remained behind, refused further treatment; in the other patient, full continence was not attained, although complete perineoplasty had been twice repeated. Of the 33 recoveries, 4 patients (11%) had to undergo a secondary operation (3 cases of closure of recto-vaginal fistula, 1 case of second complete perineoplasty). In 20 cases (57%), union by first intention; in 1 case, details are unknown; in 3 cases, recto-vaginal fistulae formed which closed spontaneously; in 3 cases, a perineo-rectal fistula was found which, however, was impervious to feces and gases. In 2 patients, the wound surfaces separated to some extent at the introitus vaginae without impairing the result of the operation. Of the 20 closures by first intention, 14 were not sutured post partum, in 3 statements are defective; inversely, of 11 previously sutured, only 3 closed by first intention. In these cases, moreover, the rectal lacerations were small.

In all cases, the freshening was done according to the Simon-Hegar method, and the three-sided suture inserted in harmony therewith. The reader recommended to commence the freshening as high up in the vagina as possible, so as to obtain a thickening of the recto-vaginal septum from the topmost vaginal sutures down. Silk was the suture material in nearly all cases; only of late had

the running catgut suture found employment, good results having been obtained with it in recent lacerations (more than ninety per cent by first intention in a series of between three hundred and four hundred cases). The speaker, however, does not sew in the way recommended by Schroeder, which is very difficult; besides, he anticipates a more exact coaptation by retaining the three-sided suture. He, therefore, stitches with two threads, commencing the first suture in the vagina, where it extends to immediately above the end of the rectal laceration. Then the latter is united with a second thread which is knotted on the rectal mucosa. The vagina having been stitched down to the introitus (any desired number of turns being dropped), the perineum should be stitched only superficially. Deep perineal sutures should be avoided. The reader sees a certain advantage in his method, in so far as he is not forced to work with excessively long threads. Mention was made of a special case in which the reader closed a complete perineal laceration of seven years' standing according to this method, after a recent labor.

None of the thirty-five cases was operated upon before the lapse of two months, one patient having borne the laceration for twenty-three years.

As regards the after-treatment, in none of the cases was the sphincter ani divided, nor was a tube inserted into the rectum. From the fourth day on, regular passages were provided for.

The discussion on the last two papers was postponed.

DR. HIRSCHBERG desired to make a correction. The expression "Simon-Hegar method" is erroneous; the three-sided suture had been made only by Simon.

DR. OLSHAUSEN (Halle) read a paper entitled:

NOTES ON THE CLINICAL INITIAL STAGE OF MYOMATA.

In a number of cases, the reader had observed symptoms which seem to precede the development of myomata. The patients suffered pains which increased during menstruation, but did not disappear in the intervals; exercise tended to intensify them. They had the character of inflammatory pains. The bladder likewise was frequently sensitive. A second group of symptoms were superadded in the shape of menstrual anomalies (profuse menstruation of an anticipating type). Finally, the uterus was always sensitive on pressure during examination. In all cases, accurate palpation could be performed, and other anomalies of the uterus could be excluded, especially the presence of myoma. These symptoms continued many months up to one or two years; then, on repeating the examination, enlargement of the uterus could be detected, and after further observation the development of a myoma could be demonstrated. Then the symptoms ceased, the pains and profuse hemorrhages disappeared, or at least moderated considerably. The symptoms admit of two explanations: either the first rudi-

ments of the myoma were then present; or else, the irritation and the continuous congestion of the uterus were the primary conditions, giving rise to the development of the myomata. The latter explanation seemed the more plausible to the reader. In its favor is the fact that many patients come under observation in later years with myomata which are still small in size, and report that they have suffered with profuse menstruation for a very long time. These patients generally have been sterile for a long time, either primarily or secondarily. The view of the anatomists (Virchow, Cohnheim), that sterility produces myomata, does not satisfy him; but for many cases the view of the gynecologists does not seem much better, viz., those cases in which the myomata do not form until the end of the third decade of life, while the sterility is of long standing. He believes the first step to be the congested condition of the uterus; the consequent hemorrhages produce sterility by impotentia gestandi; after a further lapse of time, they lead to the development of myomata or to general hyperplasia of the uterus. He would be unwilling, however, to give a generally applicable explanation for the development of myomata.

DR. FEHLING inquired whether the author had not observed that, in those cases in which the inception of myomata could be demonstrated, menstruation had been for many years previous surprisingly scanty, perhaps lasting only a few hours. He himself had observed some such cases, and believed that the menses had, for unknown reasons, failed to appear, and thus caused the development of the myomata.

DR. OLSHAUSEN had not observed any such cases, perhaps because he had not paid special attention to them.

DR. WINCKEL would reserve his reply to a future time, and called to mind cases in which myomata of many years' standing had been detected very late.

DR. OLSHAUSEN again stated that the pains were very intense and permanent in character.

DR. WIENER (Breslau) read a paper on

THE NUTRITION OF THE HUMAN FETUS.

He spoke of the various theories extant in reference to the nutrition of the fetus, and arrived at the conclusion that the liquor amnii is no physiological constituent of the fetal nutrition, but that the latter is furnished exclusively by the placenta. The nutriment of the fetus consists of maternal blood-plasma, and probably also of white blood-corpuscles. The difficulty which many authors had believed to find in the transition of the constituents of the blood, especially the albumin, has no existence, because the physical laws of diffusion and filtration deduced from dead membranes do not apply to living cells. Cohnheim calls the endothelium of vessels a living tissue or, if we like, organ, with an unknown, but undoubtedly very active nutrition. Most probably, the vascular endothelia take an active part in the imbibition of the constituents of the blood and in their distribution to the surround-

ing tissues. A similarly active participation in the reception of the maternal blood contents and their distribution to the fetal blood can also be claimed for the epithelium of the villi, as Werth had formerly pointed out.

Of course, it is not necessary to assume that there should be any special transformation of the nutrient material, a sort of digestion by the epithelium of the villi. The presence of a so-called uterine milk in the human placenta appears very questionable to the reader; his examinations of hardened placentaë speak in favor of the fact that the intervillous spaces are filled with blood, and not with uterine milk.

The paper will soon be published *in extenso*.

DR. WINCKEL inquired whether all the intervillous spaces are filled with blood. (Answered in the affirmative.)

DR. FROMMEL referred to a paper by Davidoff, who observed that the epithelium of the intestinal mucosa was active in a process of proliferation or new formation of nuclei, and that these nuclei, which exactly resemble lymph-cells, reach the tissues and the lymph current. He inquired whether the author of the paper had observed anything similar. (Answered in the negative.)

DR. LEOPOLD.—Thus far the final proof has not been furnished that there is no blood in the intervillous spaces. He still maintains his former view that all the villi are bathed in blood.

DR. SCHATZ (Rostock) read a paper on

TYPICAL PAINS OF PREGNANCY.

Occasionally the pains occur quite regularly for some time, stopping again after a while, to return weeks later. Now and then it may also be observed that agents which have a decided influence on the pains during labor are at other times quite inert; *e. g.*, quinine, pilocarpine, electricity. Among fifty gravidæ, the reader had observed the typical pains of pregnancy in the last weeks before term in five cases. They probably occur regularly in pregnant females, but are not always perceived; they set in at definite intervals before labor and maintain a specific periodicity—not, as might be supposed, however, of a monthly character, which latter type seems to be not even the ordinary one. This irregularity calls to mind the menstrual period after delivery, in which the four-weekly type does not seem to be the prevailing one, but one of six, frequently also of three weeks. These pains last for some time, up to twelve or twenty-four hours. With reference to the periodicity, we are unable to assert that labor is influenced by the menstrual type. The types of labor and menstruation are similar, but the processes must be kept absolutely separate. Both are based on a factor which is congenital or existent in the organism. The main thing, in regard to the typical pains, is the existence of a centre which cannot be purely excito-motor, but must have associated with it an inhibitory centre. This conclusion is forced upon us in view of those cases in which ergot at first has no effect, then, in very large doses, produces pains which are,

however, of short duration. In general, it seems that the pain-inhibitory centre exerts considerable power. Probably at definite times the activity of this centre relaxes and thus allows the pain-exciting centre to assert itself. The knowledge of the pain-inhibiting centre and of the typical pains of pregnancy is also important to explain the formation of the lower uterine segment. It has been disputed whether uterine activity had been present in those cases where a lower segment had been formed during pregnancy. This question is superfluous. The typical pains of pregnancy can dilate not only the upper part, but the entire cervix, and this to a considerable degree, without being followed by the onset of labor, because the inhibitory centre energetically antagonizes the irritations proceeding from that part.

DR. SCHATZ read a paper on

THE INCUBATION OF THE HUMAN OVUM.

The animal ova whose incubation progresses outside of the maternal organism are materially influenced by external agents with reference to the place where the primitive furrow arises. In the ova of various lower animals, different conditions influence the position in which the ovum develops—in one, gravitation (Pflüger); in others, heat, light, oxygen. To a certain extent, this is also the case in mammalia. In all mammals whose ova are for a time freely movable in the uterus, the funis always attaches itself solely to the side of the mesometrium (mesenterium uteri). Probably the entire development is connected with this regular insertion; it determines the appropriate position of the embryo in the ovum. Perhaps, too, the ovum might turn in the uterus so that the funis at last comes to a certain point. Schultze believes that the allantois approaches the chorion at any point, and only secondarily, by the development of the blood-vessels, the funis gradually gets around far enough at last to become inserted into the placenta; exceptionally perhaps it is prevented from reaching the latter, *e. g.*, when the omphalo-mesenteric duct is somewhat adherent. This theory represents an impossibility in the lower animals, for we find in the uterus of ruminants, on both sides along the mesometrium, two rows of uterine tubercles. The funis, then, would come to a stop at the external row of tubercles; but, as a matter of fact, is found regularly on the two median rows. This remark applies still more forcibly to the carnivora, in which the placenta is girdle-shaped; in them, unilateral traction of the vessels of the allantois, and corresponding displacement of the insertion of the funis, is an impossibility. The first insertion of the allantois must remain permanently the same. The point of insertion of the funis, therefore, must be predetermined according to some law of polarity. It is improbable also that man alone should form an exception. Either the ovum has from the beginning a certain position, or else the ovum contains several equivalent meridians, some of which,

however, are and remain favored by their position. In these the fetus develops. A further proof of the primarily predetermined insertion of the allantois on the chorion frondosum is furnished by single twin ova. In these, the allantois of each twin occupies one-half of the spherical inner surface of the ovum, while the chorion frondosum covers only the fourth, or at most, third part of the surface. Were there no polarity in the ovum, and the two allantoides free to arrange themselves *ad libitum* over the chorion, a velamentous insertion would be present in two-thirds of the cases; but the frequency is very much less. Hence there must be also in these cases a definite position for the fetus in the development of the ovum.

DR. WYDER (Berlin) read a paper on

ALTERATIONS OF THE UTERINE MUCOSA IN THE PRESENCE OF FIBROMYOMAS.

Fibromyomas are said to be likely to give rise to malignant diseases of the mucous membranes. Martin had formerly maintained that these conditions furnish an indication for total extirpation. The reader, having examined a number of cases, does not share this view.

With *subperitoneal myomas*, the mucous membrane was found much thickened; the most important alteration was a very perfect glandular endometritis. In one case, adenomatous polypi were present; in another, on one side glandular, on the opposite side interstitial endometritis.

For *interstitial myomas*, three groups must be formed:

1. Where the tumors were separated from the uterine cavity by a wall one-half to one centimetre thick.
2. Where the tumor is beneath the mucous membrane, but does not project.
3. Where the tumors project largely into the uterine cavity.

Of 7 cases in the first group, in 1 no alterations were found; in 2, glandular endometritis (mucosa 4-10 mm. thick); in 3, interstitial endometritis. In most cases the vessels were very numerous and their walls very thick.

In the second group, the deeper layers of the mucous membrane were completely transformed into connective-tissue trabeculæ; at the surface was a greatly dilated capillary network with thick-walled vessels.

In the third group, interstitial endometritis was found.

The thicker the wall separating the tumor from the uterine cavity the more is the glandular structure developed (glandular endometritis); the closer the tumor approaches the mucous membrane the more pronounced becomes the connective-tissue character of the proliferation in the mucosa (interstitial endometritis). We then find on one side the mucosa atrophied into connective tissue, and on the other, in a state of glandular prolif-

eration. As regards the source of the hemorrhages, it should be remarked that no vascular changes are to be expected in subperitoneal tumors. It was found that, where glandular endometritis was alone present, no hemorrhages had gone before. In the case of interstitial tumors associated with glandular endometritis exclusively, there was likewise no preceding hemorrhage. It was present only with interstitial endometritis. Therefore, hemorrhage will not take place where the interglandular tissue is quite intact; but it will occur where both structures proliferate equally (endometritis fungosa), or where one or the other form develops predominantly, or where glandular endometritis exists on one side and interstitial endometritis on the other. Compression of the numerous vessels causes venous congestion; hemorrhage will set in, especially when glands and tissue have proliferated equally. The glands exert no influence on the under surface; their character is usually benign. The border line between mucosa and muscle is intact. Endometritis glandularis is of a benign nature.

The paper was illustrated with drawings and specimens.

DR. HOFMEIER (Berlin) exhibited several specimens:

1. A uterus with plainly developed ring of contraction and lower uterine segment. The uterine artery enters at the point where the ring of contraction is, and where the peritoneum is firmly attached.

2. A specimen of extrauterine pregnancy of the tubal variety; rupture of the ovisac had occurred after an examination.

3. A uterus removed at term by the Cesarean operation; several pedunculated tumors sprang from its posterior wall, and projected into the lesser pelvis where they were adherent. The elastic tube was applied, and the uterus, with its tumors, amputated. The patient recovered.

DR. SCHWARZ (Halle) read a paper on

A PATHOLOGICAL AFFECTION OF THE VAGINAL MUCOSA.

The reader described an affection not hitherto known. The upper part of the vagina was filled with friable masses which bled easily. These masses consisted of prominences seated in the upper part of the vagina and on the outer surface of the cervix. They rose abruptly from their base and, owing to their deep red color, made the impression of granulation tumors; they had a finely papillary surface and were very vascular. They could be easily peeled from their seat, leaving a small loss of substance in the mucous membrane. On the cervix, which was greatly thickened, was an erosion larger than a dime which was cauterized with silver nitrate. Microscopical examination showed these formations to consist exclusively of epithelial cells, resembling in their form those of the vagina below the surface. The impression conveyed was, as if the proliferating deeper epithelial layers were crowding above the surface. There was no sharp demarcation

toward the vaginal epithelium. The reader would term this new-formation a multiple fungous epithelioma. It contained numerous capillary blood-vessels on the surface. Four months later, the epithelial proliferations had become much more extensive. The cervix now contained a very suspicious-looking ulcer. No extension of the epithelia into the depth could be found; the papillary body was not implicated. Total extirpation of the uterus and the upper two-thirds of the vagina. Remnants of the fungoid neoplasm were still present in the direction of the broad ligaments. Etiologically the reader explains the vaginal affection not as an infection from the cervix, but that both affections were closely connected, being due to the irritation by the morbid uterine secretion.

As to the limitation of the total extirpation, the reader decides in all cases in favor of it, and, aside from other reasons, chiefly because he can remove a large portion of the ligaments, in the connective tissue of which germs of carcinoma are often early present.

DR. BATTLEHNER (Carlsruhe) read a paper on

VAGINAL LACERATIONS.

In a IXpara, æt. 33 years, whose deliveries had always been spontaneous, there occurred, during the last spontaneous labor, a right-sided rupture of the uterus and a vaginal laceration extending down the anterior wall to a distance of $2\frac{1}{2}$ cm. above the orifice of the urethra. The vagina was torn from the cervix. The bladder was separated from all its attachments so that it fell completely into the vagina; it was even detached from the urethral orifice. The question was, should laparotomy be done according to Kaltenbach, or should the wounds be stitched from the vagina? The reader filled the abdomen with two-per-cent boric-acid solution, stitched the vagina to the cervix whence it had been torn, and then closed the other wounds. Nutrition by enemata. The course was favorable, only a vesico-vaginal fistulæ remained behind. The pelvis was in no wise deformed; probably owing to the many preceding labors, the vagina and lower uterine segment must have become much thinned or degenerated. The head remained unusually long in the pelvis. The reader added that in similar cases the abdominal cavity can be cleaned and the abnormal contents removed by drainage and a compressive dressing.

DR. KUESTNER (Jena) read a paper on

COCAINE IN PLASTIC SURGERY.

In particularly painful operations, especially at the posterior commissure, the reader employed cocaine, in twenty-per-cent solution. Among 42 cases, the effect was bad in 8, good in 23; there being no pain during the incision and the separation of the flap; but subsequently the needle punctures were felt. In 10 cases, the

anesthesia was absolute until the end of the operation. He recommended the drug.

DR. CRÉDÉ thanked the President for the excellent way in which he had guided the deliberations.

DR. WINCKEL closed the session.

REVIEW.

TRANSACTIONS OF THE AMERICAN GYNECOLOGICAL SOCIETY. Vol. X. For the Year 1885. New York: D. Appleton & Co., 1886, pp. 357.

The tenth volume of these transactions is in no respect inferior to its predecessors. The address of the President, DR. W. T. HOWARD, concerns "Two Rare Cases of Abdominal Surgery," the one a case of encysted tubercular peritonitis, and the other probably a parovarian cyst, an imperfect autopsy preventing accurate diagnosis. This paper exemplifies in a marked manner how difficult it often is to reach a diagnosis in case of abdominal tumors.

DR. SAMUEL C. BUSEY contributes a thoughtful paper on "The Natural Hygiene of Child-Bearing Life," in which he shows how rational hygiene may prevent much of the mortality and morbidity in women from puberty to the menopause.

DR. HENRY J. GARRIGUES writes on the rare affection, "Puerperal Diphtheria," it having been his fortune to witness twenty-seven cases of an affection the very existence of which is denied by many authorities.

DR. JOSEPH TABER JOHNSON reports "Four Cases of Oöphorectomy," his paper being a plea for early operation, before strong adhesions have formed, and the patient is exhausted, and often bed-ridden.

DR. THAD. A. REAMY describes a novel method of "Protection of the Perineum during Parturition," the method aiming at retardation of the fetal head in order to allow the perineal structures to slowly relax.

DR. EDWARD W. JENKS reports a "Case of Cesarean Section" eventuating fatally, and instancing anew the fact that this operation, in order to be successful, should be resorted to early, and not left as a *dernier ressort*.

DR. ELWOOD WILSON, having previously condemned Tarnier's forceps, in the present volume makes full retraction, and reports a number of cases in which the instrument rendered him valuable service.

DR. R. STANSBURY SUTTON describes a "Modification of Emmet's Cervix Operation," applicable to cases where there exists hypertrophy of one lip, and consisting in complete denudation of this lip.

DR. WILLIAM GOODELL's paper concerns "Inflammation of the Parotid Glands Following Operation on the Female Genital Or-

gans," and clearly proves the close relationship existing between these remote organs.

DR. JAMES R. CHADWICK discusses "Peristalsis of the Genital Tract;" DR. THEOPHILUS PARVIN contributes a paper on "Facial Paralysis of the New-born Caused by the Forceps;" DR. HENRY F. CAMPBELL writes at length on the "Genu-Pectoral Posture," showing the value of this position in impeded uterine reduction, and in the prolonged nausea and vomiting of pregnancy; DR. JAS. B. HUNTER enters into the causes, and, in particular, the prevention of "Mural Abscesses Following Laparotomy;" DR. WILLIAM H. PARISH gives a clinical picture of "Pelvic Abscess in the Female," and its Treatment; DR. CHAS. JEWETT reports "Two Cases of Laparo-Elytrotomy," one of which was successful, and incorporates in his paper a sketch of the twelve operations of this nature thus far performed, with the result of six mothers and seven children saved.

Such are the contents of this volume. Our readers cannot afford to remain without a volume which contains so many contributions of interest and of value.

EGBERT H. GRANDIN.

ABSTRACT.

1. Kehr: Cesarean Section (*Archiv f. Gyn.*, XXVII., 2).—In a previous number (XIX., p. 177), K. reported two cases of Cesarean section after his method (for these cases and method, see this JOURNAL, Supplement, July, 1882), and in the present paper he reports two additional cases. In one of these cases, the mother died of sepsis on fifth day, the child was saved; in the other, both mother and child saved. In the first instance, K. admits that the Porro method would have been preferable, because the woman had been long in labor, the membranes long ruptured, there was fever and foul discharge. Under such circumstances, the conservative section is contra-indicated. In general, however, he has reached the conclusion from his four cases that in every uncomplicated case the improved conservative section is indicated, whilst, where there are complications (fever, metritis, multiple myomas of fundus), the Porro method should be preferred. The conservative Cesarean section has now been performed seventeen times, by one or another modification (in six, Sänger's), with seven deaths. Of the seventeen cases, one (Frank's) ought not to be counted against the method, because the operation was performed on a patient already under deep shock from severe burns. There remain, therefore, sixteen cases with a mortality of 37.5%, and only four (25%) died of sepsis. The cases are few, but the figures are far better than from Porro. K. then proceeds to describe his method in detail (vide this JOURNAL).

E. H. G.

THE AMERICAN JOURNAL OF OBSTETRICS

AND

DISEASES OF WOMEN AND CHILDREN.

VOL. XIX.] NOVEMBER, 1886. [No. 11.

ORIGINAL COMMUNICATIONS.

A STUDY OF THE CAUSATION AND TREATMENT OF PELVIC HEMATOCELE.¹

BY

HENRY T. BYFORD, M.D.,

Attending Physician and Surgeon to the Woman's Hospital of Chicago.

THE still existing difference of opinion as to the origin, and especially as to the advisability of surgical interference in pelvic hematocele, induces me to report the following cases :

Mrs. Mary S——, a well-formed, medium-sized negress, 30 years of age, applied at the Woman's Hospital, March 14th, 1886, suffering with a retro-uterine hematocele. She had been married twice; the first time six years ago, the last time about a year ago. No children. Had one miscarriage September 10th, 1885, at six weeks, brought on by heavy lifting. Passed several clots with what the attending physicians recognized as the ovum. Was in bed three weeks. She then got up, but was taken two days later with pains and hemorrhage, and went to bed for another four weeks. Flowed continuously, sometimes more, sometimes less, for three months, and afterwards intermittently up to the time of admission to the hospital. Had been subject to pain in back and both iliac regions, principally the right. Bowels obstinately constipated from the first. Defecation painful. Sensation of pressure or straining in the rectum, as from hemorrhoids. A book canvasser, she has been unable to attend to her business until the last three weeks, and since then so unsatisfactorily, and with such discomfort, that she was ready to undergo any operation that would afford relief. She had been treated by a number of physicians, each for a different disease, and wanted no more temporiz-

¹ Read before the Chicago Gynecological Society, June 18th, 1886.

ing. Her husband was clamoring for offspring, and wanted the tumor removed.

The general condition of the patient was quite good, and if she could have been kept idle and off of her feet for a year or two, she would probably have outlived the tumor, without an operation.

Upon examination but little tenderness was found, except in the left iliac region, where a few lumps the size of a walnut could be felt. A large, highly elastic body was felt per vaginam, reaching down nearly to the pelvic floor, and forwards so as to push the cervix up behind the symphysis. Uterus three and one-fourth inches. Per rectum the utero-sacral ligaments were felt to be separated, so that one reached straight, and the other diagonally across the pelvis. The mass could be pushed up until they were put upon the stretch, without causing much complaint to be made. Uterus and tumor were felt above the symphysis. The lumps in the left iliac region seemed continuous with the tumor.

On the 18th of March, assisted by Dr. Frances Carothers, I attacked the cavity of the hematocele at what seemed its softest spot behind the cervix uteri. Getting no fluid with a hypodermic needle, I introduced a fine curved bistoury. Still getting nothing, I introduced a pair of dressing forceps into the minute opening, and tore the vaginal wall by expanding the blades, until I could introduce two fingers. But little hemorrhage resulted. Introducing the forceps into the puncture made in the cyst wall, I likewise tore it open until the middle finger easily passed through it. Still no fluid escaped. I introduced the finger, encountered an organized blood clot, broke it up all around the opening, and for a couple of inches above it, and brought out half a cupful of small black pieces. A copious injection of hot water brought away quite a quantity of the same debris, but nothing else. The resulting cavity was then washed out with a two-per cent carbolic acid solution and a carbolated vaginal tampon introduced. At 5:30 P.M. the pulse was 72, and temperature 99° F.

March 19th, 9 A.M., pulse 72, temp. 99° F. Removed the plugging from vagina; 2 P.M., pulse 66, temp. 99 $\frac{3}{8}$ ° F. Irrigations of cavity with carbolic acid, two per cent, ordered to be used twice a day; 8 P.M., pulse 87, temp. 101 $\frac{1}{2}$ ° F. 20th, 9 A.M., pulse 78, temp. 98° F. Ate oatmeal, milk, jelly and cracker; 1:30 P.M., pulse 84, temp. 99° F. Took rice, crackers, butter, and milk; 5:30 P.M., ate crackers, milk cake and sauce; 8 P.M., pulse 84, temp. 99° F. Able from this time to urinate without catheter. 21st, took a laxative, and thereafter had no more trouble with constipation. Temp., A.M., 98 $\frac{1}{2}$ ° F., and P.M. 99 $\frac{1}{2}$ ° F. Ate turkey, potatoes, tomato, and ice-cream.

March 22d. Dilated the opening into the abscess with the finger, and directed the house surgeon to pass a finger into it at every dressing. A large quantity of debris, mixed with pus, came away at each dressing, and a little between. There was quite a little odor at the time of each irrigation, but at other times it

was scarcely noticeable. As the carbolic acid was slightly irritating to the vagina, I ordered the biniodide of mercury, 1:2,000, to be used for two days, and afterwards alternated with a one-and-one-half per cent carbolic acid solution, each once a day. Pulse 72, temp. 2 P.M., $100\frac{2}{3}^{\circ}$ F.; 5 P.M., $99\frac{1}{5}^{\circ}$ F.

March 23d, temp., A.M., $100\frac{2}{3}^{\circ}$ F.; P.M., $100\frac{1}{5}^{\circ}$ F. 24th, temp. $98\frac{3}{5}^{\circ}$ F., $99\frac{2}{3}^{\circ}$ F. Ate heartily of beefsteak, potatoes, and ordinary table diet; some pain in the evening, after the irrigation; temp. $100\frac{2}{3}^{\circ}$ F.; tinct. opii deod. 40 drops. 25th, highest temperature $99\frac{2}{3}^{\circ}$ F. Ate heartily. 26th, there was a sudden discharge of a half-ounce of pus, accompanied by a sinking of the uterus almost to its natural position; temp. 99° F. 27th, 28th, and 29th, highest temp. 99° F., $98\frac{3}{5}^{\circ}$ F., $99\frac{1}{5}^{\circ}$ F., $98\frac{3}{5}^{\circ}$ F., 99° F. Up and about the room on the 29th 30th, temp., A.M., $98\frac{1}{5}^{\circ}$ F., P.M., $101\frac{2}{5}^{\circ}$ F. Considerable odor. 31st, temp., 10 A.M., $98\frac{2}{5}^{\circ}$ F. A blood-clot the size of a small walnut was passed. Having just read, for the first time, the article of Apostoli and Doleris, in the *Archives de Toccol.*, for Nov., 1885, I reproached myself for my timidity in not thoroughly curetting the cavity at the time of the operation, and thus getting rid of this foul-smelling mass in advance. Finding the patient up and feeling quite well, I ordered her to bed and proceeded to scoop out the abscess with Thomas' dull curette. I went over every part of it, carefully and gently, without eliciting any complaint from the patient, and found it still to extend above the top of the uterus at the left side. Upon using a one-and-one-half per cent solution of carbolic acid, she suddenly experienced such acute pain in the left iliac region, where the lumps were situated, that I thought I had made an opening into the abdominal cavity. The lumps, which had almost disappeared, became more prominent, bloating commenced and tenderness became marked. Pulse 70, temp. $97\frac{2}{5}^{\circ}$ F. Was given one-fourth grain of morphia hypodermically. 2:20 P.M., pulse 90, temp. $97\frac{2}{5}^{\circ}$ F. Great tenderness and bloating in left iliac region; another hypodermic injection. Slight chills; 7:20 P.M., temp. $98\frac{2}{5}^{\circ}$ F. Ordered irrigations of a one-per-cent carbolic acid solution to be commenced next morning.

April 1st. Pulse 78, temp. at 7:40 A.M., $98\frac{2}{5}^{\circ}$ F.; at 2 P.M., $99\frac{2}{5}^{\circ}$ F.; at 5:30, $100\frac{1}{5}^{\circ}$ F. Tender and bloated. 2d, temp. A.M., $98\frac{2}{5}^{\circ}$ F.; P.M., $99\frac{2}{5}^{\circ}$ F. Purulent discharge. 3d, temp. A.M., $98\frac{2}{5}^{\circ}$ F., P.M., 100° F.; 5th, pulse 66, temp. $98\frac{2}{5}^{\circ}$ F. all day. No more tenderness. Ordered one-and-one-half per cent carbolic acid irrigations, alternated with biniodide of mercury 1:3,000. But little odor. 6th, used the irrigation myself, fourteen hours after a previous dressing. Detected no odor. A trace of pus, but no bloody débris. Pulse 72 to 90, temp., A.M., $98\frac{2}{5}^{\circ}$ F.; P.M., 100° F. Wanted to get up. 7th to 10th, temp. A.M., $98\frac{2}{5}^{\circ}$ F. to 99° F.; P.M., 100° , $100\frac{2}{5}^{\circ}$, 100° , 99° F. 11th, temp. henceforth normal. Odor entirely gone. Up and about the house. 21st, discharge consisted of a little mucus in

the morning, probably from the cervix. The irrigation, one-and-one-half per cent carbolic acid and 1 : 3,000 hydrarg. biniodide, had been kept up, as she was content to remain at the hospital, where her food and bedding were better than at her home. Upon examination, I found a lump the size of a small hen's egg just over the right sacro-uterine ligament binding the uterus; uterus three inches; abscess cavity collapsed. Pressed the finger into the opening and encountered a small canal leading upwards—too small for the passage of the finger.

April 28th. Returned for examination. No discharge, no odor. Feels well. Uterus movable. Still a small lump behind it and to the right. Examined also by Dr. Frances Carothers. Has menstruated normally twice since the operation, a few days ahead of time. No trouble with constipation.

May 8th. Still a little induration over right sacro-uterine ligament. Menstruated again normally, but four or five days ahead of her time.

June 5th. Induration less on the side, and now occupies a slightly lower position in the pelvis, extending from the point of puncture to the right sacro-uterine ligament. Menstruated two days ahead of time. Is canvassing as formerly, on her feet nearly all of the time.

The following points are interesting as summarizing the characteristics of this case :

1. The length of time from the occurrence of the hematocele to the time of the operation, about six months.
2. The method of opening the cavity, viz., by first tearing the vaginal wall and afterward the sac wall.
3. The absence of fluid in the tumor.
4. The breaking up the mass with the finger, without any immediate attempt at thorough curetting, or removal of the entire contents.
5. The complete disintegration and discharge of all bloody substance in thirteen days.
6. The absence of high temperature, 102° F. never having been reached.
7. The small amount of anodyne required—one dose (except the two doses to relieve the direct irritation from subsequent unnecessary curetting).
8. The toleration of strong antiseptic solutions. The vagina was the first to become irritated.
9. The absence of the usual amount of odor of such decomposing masses. The husband, who visited her frequently, thought he detected a very little odor on two or three occasions. The other patients in the ward experienced no inconvenience.

10. The large amount of food taken throughout.

11. The absence of any kind of sickness from the beginning, until the cavity was curetted. She felt well enough to be up, and asked to be allowed to get up, eight days after the operation. Allowed to sit up in bed on the tenth day, and to dress herself and get up on the eleventh day.

12. The curetting of the cavity on the thirteenth day after the operation delayed her recovery, producing the only serious symptoms that were noticed.

13. Notwithstanding a set-back of ten days caused by the curetting, she was well enough to go home inside of a month, and dispense with medical treatment.

14. No drainage tube was used, but the opening kept large enough to admit the finger until all discharge had ceased.

15. The attack came on after a miscarriage.

P. F. Mundé reports two new cases of large hematoma successfully operated upon three and six weeks respectively after their occurrence, and resulting from or after abortions. (*N. Y. Medicinische Presse*, Vol. I., No. 1, Dec., 1885.) He also kindly furnishes me with the record of a case operated upon six weeks after the appearance of the symptoms, in which no pus was found. Irritation of the bowels after eating four or five baked apples (thin stools and persistent abdominal pains) is the only possible cause known. Twenty-six and a half ounces of dark, thick blood were evacuated. Patient discharged cured thirty-two days after the operation.

In the past two years I have treated five other cases of this nature; four extraperitoneal hematomas and one retro-uterine hematocele.

The first was as large as a goose egg, in the left broad ligament, and came on after a miscarriage. On account of acute ante flexion, the cervix had been dilated by a sponge-tent for the removal of retained placenta. The hemorrhage afterwards was without odor, and continued five weeks, although she was kept in bed. She was 28 years old. She had suffered with dysmenorrhea as a girl, and was sterile for several years after marriage. Had one child three years before. The lump had become hard and considerably smaller when I examined her last, viz., two months after its onset, and gave her then only slight inconvenience. She is now strong and hearty, and has conceived again.

The second occurred in a young girl, engaged to be married, 22 years old, and was caused by excessive skating in a rink before and during a menstrual period. The tumor was the size of a

hen's egg, and on the right side. She did not remain in bed, although she bled for six weeks. She soon came to feel quite well, and remained so until she got married, four months after. Then the hemorrhage returned and continued with short intermissions until a short time ago.

The third was after a supposed early abortion. The patient, 26 years old, had had one child several years before. Cervix moderately lacerated. The hemorrhage had continued about five weeks before I saw her. The tumor was a little larger than the uterus, and on the right side, and at first quite sensitive. The hemorrhage continued three months and a half, the last two of which were, by my direction, spent in bed. Absorption was too slow to be appreciable during the first two months, yet rapid after that. It is now, six months from its beginning, about twice as large as a healthy ovary, has lost its sensitiveness, remains hard, and is rapidly disappearing. Uterus now three inches deep. A decidua was passed soon after she took to bed. The cause was probably an extrauterine pregnancy. She was seen by Dr. E. J. Doering, my consultant, on two occasions (Sept. 15th, no trace of tumor found).

The fourth case was a retro-uterine hematocoele in a multipara of 36 years. Syphilitic history on husband's side before marriage. Several abortions. Had had slight laceration of cervix sewed up two years before. Areolar hyperplasia. Had symptoms of pelvic congestion during the month before the attack, for which she was advised to keep the bed. Went to a funeral while menstruating, and was taken down soon after. The tumor was large, filled the pelvis, extended above the fundus behind, and came on with symptoms of collapse. The patient was also seen by Dr. D. A. K. Steele. She remained in bed two months. Scarcely any trace of tumor was left at the end of three months, none at the end of four.

The fifth case was that of Mary St., already reported.

Case number six was a hematoma occurring after an abortion had been produced upon a young girl, and extended across behind the uterus. It had undergone the process of hardening and nodulation, and was being satisfactorily absorbed when she left the hospital, in a little less than two months from the time of its occurrence. In bed she felt quite well and was without fever, but was taken with pain and fever each time she disobeyed orders and left the bed.

In these nine new cases (including Mundé's), five occurred during or after abortion, one was caused probably by extrauterine pregnancy, two by over-exertion and exposure during congestion of the pelvic organs, and one was due possibly to irritation of the bowels. The five cases due to abortion would seem to give us abortion as a not uncommon cause of hema-

toma and hematocele, and help to explain the frequency of suppression of the menses before attacks.¹

Hematoma of small size is undoubtedly in many instances entirely overlooked, especially after abortion and in cases where it forms gradually. On account of the hardness and tenderness of the tumor when discovered, it is sometimes mistaken by the general practitioner for inflammatory exudation. Hence I believe it to be a more frequent disease than has been supposed. Long-continued metrorrhagia after complete expulsion of the early ovum, without much pain or febrile reaction, except temporarily, should lead us to examine the broad ligaments carefully for such a tumor.

It is singular with what unanimity the text-books recommend non-interference for hematoma and hematocele until dangerous, or at least serious symptoms arise. After performing the above-reported operation, I searched them in vain for authority in so doing, but was met everywhere with echoes of Nélaton's conservative cry of alarm. Finally obtaining a copy of Billroth and Luecke's "*Frauenkrankheiten*," second edition, 1886, I found evacuation recommended by Bandl "when a large accumulation remains stationary for weeks without showing any tendency to resorption." He would delay as long as possible for the sake of avoiding the danger of hemorrhage, but did not consider it safe to wait longer than after one menstrual period had passed. Mundé, operating in 1885 at three and six weeks, anticipated, in a measure, this advice.

That the treatment thus formulated is decidedly in advance of anything that has gone before it must be acknowledged. The extreme views taken by Zweifel (*Arch. für Gyn.*, XXII. and XXIII.), to operate in two or three weeks, and by Apostoli and Doléris (*Arch. de Toccol.*, November, 1885), that, "every hematocele, without exception, can and should be punctured (by the galvano-puncture) as soon as the diagnosis is certain,"² are dangerous and experimentative, and require further proof as to their relative innocuousness. The statistics given prove not that

¹ Dr. H. N. Heineman reported, Sept. 22d, to the New York Pathological Society (N. Y. Med. Record, Oct. 16th, 1886, p. 442) a fatal case of hematoma, with autopsy, in which "the uterus contained the remains of a forming placenta, and the mucous membrane was slightly lacerated."

² "Toute hématocele diagnostiquée pourra et devra être immédiatement ponctionnée sans différer."

an early operation is the least dangerous of all procedures, but that it is a trifle less dangerous than doing nothing in all cases.

The dangers incurred by leaving the accumulation to be absorbed being mostly remote, and the large majority of cases being cured by absorption, it becomes our duty (excepting, of course, those in which pressure becomes immediately dangerous) to give this classic method a trial. And the principal, indispensable, and first thing to be done is, in all cases, to prescribe absolute quiet or rest in bed until the local congestions and inflammations shall have abated. Inattention to this one particular is the cause of a large part of the serious trouble that arises. There is nothing to show that Mundé's cases, before he saw them, had the benefit of such rest in bed. The high temperature in two of them, without the presence of pus, would indicate that these had not. The case operated upon by Apostoli and Doleris certainly did not, until too late.

These remote dangers incident to the expectant treatment are suppuration, septicemia, perforation, and prolonged pressure upon, and displacement of surrounding organs, with their results, viz., the aggravation and perpetuation of pre-existing pelvic diseases, or the originating of new ones.

The dangers of immediate operation, or during the first two or three weeks, are a recurrence of shock, hemorrhage, or (if hemostatic tampons be used) inflammation; or of septicemia followed by inflammation if antiseptic injections of sufficient strength be used.

That the cure by immediate or early operation is radical will not be denied. But it involves the substitution of these immediate dangers for the remote ones. Zweifel having shown that the mortality in severe cases is about equal by either method, the problem to be solved is how to avoid both these immediate and remote dangers. This is where Bandl takes it up. But his fear of changes in the tumor and its surroundings prevents him giving sufficient prominence to the immediate dangers of uncontrolled septicemia, or of inflammation from the strength of the antiseptic solution necessary to control it; or else of the inflammation apt to result from the curetting necessary for complete evacuation.

A careful perusal of the records must convince any one that both Bandl and Zweifel, in their writings, are overrating the

dangers of delay. The pus is very seldom formed in less than six weeks, usually not that early, in quantities sufficient to add to the patient's danger. Apostoli and Doleris, after a continuance of unfavorable symptoms, in their case, for six weeks, resulting finally in a waxy and cachectic look, tender abdomen, fever, etc., found no pus. Mundé, at the end of three and six weeks, with temperature of $101\frac{2}{5}^{\circ}$ F. and 102° F., found no pus. With the proper treatment and rest from the beginning of the attack, such cases would, as a rule, not produce such severe symptoms, and should be regarded as exceptional or neglected ones, from which general deductions may not be made.

In the case reported in the beginning of this paper, the woman suffered during the first two months almost as much as those operated upon, and yet waited six months. In case IV., of the large retro-uterine hematocele, in which only traces of the tumor were left after three months, and none after four, the patient, for the first four weeks, was able to keep almost nothing on her stomach, and suffered with constant pain (requiring narcotics), frequent attacks of dyspnea, palpitation, etc. Her condition was at one time considered critical, and seemed to call for surgical interference. At the end of five weeks she got up for about an hour, but felt so much worse afterwards that she was content to remain quietly in bed until allowed to leave it. She commenced to get about after two months had elapsed, and in another month was quite strong. An operation could have done no better, but only have increased her danger. In case No. III. the patient was in bed a month before there was much amelioration in the symptoms, and nearly two months before the metrorrhagia ceased, and the tumor began to grow much smaller. In case VI. the symptoms became worse, and were accompanied by fever and pains until she went to bed and staid there, when they rapidly subsided.

Therefore, as purulent degeneration is slow to appear, and as the other symptoms, as a rule, improve under proper treatment, instead of getting worse, as they do under improper management, we may, with a few exceptions, wait until a normal, or nearly normal temperature, abatement of tenderness, and other signs of improvement tell us that the acute stage has passed off, whether it be six weeks or six months.

But, with an abatement of the severer symptoms, the old query still confronts us: Shall we operate, or continue the ex-

pectant treatment until signs of mischief become apparent? As this kind of waiting is as dangerous as the early operation in severe cases, and means to lose the advantage gained by the avoidance of an early operation, it clearly becomes our duty to anticipate such harm; yet not by operating early and recklessly in all severe cases, but by selecting such as have ceased to improve, are not being perceptibly absorbed, and are large enough to interfere with the functions of the pelvic organs, or the general comfort and usefulness of the patient. As long as the tumor is shrinking and becoming harder, no matter how slowly, we may expect that the fluid is being absorbed and the clot will, with rest in bed, disappear in the same way, notwithstanding local irritation, reflex symptoms, and debility, and hence should delay operating. If, however, the tumor remain boggy or doughy, and undiminished in size, showing that the fluid has not been absorbed, and the local symptoms, instead of partially subsiding, increase, with fever, emaciation, etc., it may, of course, become necessary to evacuate soon after the first menstrual period. As said before, these are the exceptional or neglected cases.

But there will sometimes occur histories like that of Mary S—— in which, after a few months, the tumor will still be elastic and boggy, the symptoms gradually improve under rest in bed, and the final absorption be not improbable; but in which poverty, want of care, necessity of working, and the like, may render an evacuation desirable and fully as free from risks as the expectant plan under such unfavorable circumstances. Indeed, if the acute symptoms have passed off, and several months of invalidism can be saved by evacuation, the patient should have the benefit of an operation at the time when it is so free from danger.

As to the method of operating, I would not give the preference to that of Apostoli and Doléris, because two operations are required (one for the galvano-puncture, and the other for the breaking up, or scooping out, of the mass after separation of the eschar), because the formation of such an opening large enough to introduce the finger would involve the destruction of too much tissue, and because the use of the curette through a small opening is not devoid of danger. Their method is the ideal one for hard, inelastic tumors, but such hematoceles seldom require an operation until they commence to soften. Zweifel's method of

procedure, viz., to first incise the vagina, check the hemorrhage, and then open the sac, is preferable. But, on account of the danger of troublesome hemorrhage from incision, it is better to puncture, and then tear the vaginal wall with a dilator until the rent will admit two fingers. The sac-wall may be opened in the same way, or, if any difficulty is experienced, may be incised. Retro-uterine hematoceles in cases where the cul-de-sac of Douglas has been previously obliterated should, I believe, be attacked by puncture and dilatation per rectum, when possible, rather than by abdominal section. The difficulty would be but little greater than the dilatation of the fistulous opening of a pelvic abscess.

The plan adopted in the case reported, but only imperfectly executed, of breaking up the entire clot, but avoiding any scraping of the walls of the cavity, proved to be as efficient as imperfect curetting, and vastly less dangerous than a thorough curetting of the cavity walls. Following this careful avoidance of the production of irritation, antiseptics may be tried strong enough to be thoroughly efficient, viz.: hydrarg. biniodide, 1:3,000; bichloride, 1:2,000; carbolic acid, $1\frac{1}{2}$ to 2 per cent; or their equivalent. If they cannot be used of this strength, they may be used oftener—three to five, instead of two or three times a day. The finger can be used as a dilator, and be passed daily through the openings both in the vagina and cyst-wall. The possibility of the presence of an extrauterine pregnancy, ovarian tumor, serous peritonitis, fibroid or fibro-cystic tumor of the uterus, etc., makes it advisable always to use an aspirating needle previous to using the knife.

Abdominal section for such tumors as cannot be safely reached through the vagina or rectum is purposely left out of consideration, as a different set of dangers are involved, and a separate discussion would be required.

Schroeder's "*Weibliche Geschlechtsorgane*" (1886), which was received after this paper was completed, contains the following paragraph, p. 482:

"The evacuation of the tumor may become necessary when it causes unendurable difficulties, when it remains stationary for some time, and, above all, when fever, etc., indicate that its contents are septic."

A CASE OF INDUCTION OF PREMATURE LABOR.

BY

SIDNEY DAVIS, M.D.,

Petersburg, Pa.

THE following case is reported as an illustration of the manner of exciting labor before term, in which respect it may prove instructive to the profession :

Received a letter from Mr. M., May 19th, 1885, requesting me to deliver his wife, inclosing a short note from Dr. J. Cheston Morris, of Philadelphia, in which he advised premature labor two or three weeks before her regular time for delivery, stating that, on making an examination of Mrs. M., he had found a certain amount of contraction of the pubic arch. After receiving this letter, I requested Mr. M. to call. I then gathered the following history of his wife's case.

Four years previous, his wife, being about to be confined, he sent for their family physician on Thursday. This physician was with her until Sunday, and then, as her strength began to fail, another physician was called, and after a consultation they decided to apply the forceps. These instruments were kept on for a certain length of time—how long exactly the husband did not know—they failed to deliver with forceps, and then performed craniotomy, and after some delay she was delivered of a male child weighing over thirteen pounds. After this delivery, the lady was in such a condition that one of the physicians expressed it as his opinion that she would not live an hour.

It took six persons to lift her on a sheet when she had to be moved, because, as her husband expressed it, she was so sore and pained. She was confined to her room at this time for two months, troubled all this time with constant dribbling of urine, due, her physician said, to a fistula. At the end of this time she made a trip to Philadelphia, and consulted Dr. Morris, when there was found to be no fistula, but that the neck of the bladder had been injured and lost all tone from long pressure of the child's head. Dr. Morris had her use the catheter every four hours. This broke up the dribbling, and from that time she regained her health perfectly.

I requested Mr. M. to bring his wife to her father's, who lives in an adjoining town, only three miles from me, and connected with my house by telephone. This I desired because he lived too far away for me to leave my practice the length of time I expected to be detained on the case. Mr. M. brought his wife to her father's on the 3d of July; I saw her on the 4th, found her in splendid

condition physically, which she had been all through her pregnancy. Made my first examination on the morning of the 5th: found the occiput the presenting part; the cervix rather low down and tilted very much to the left side.

She stated that her full term would be up on the 25th of July. After taking everything into consideration, I decided to appoint the morning of the 10th to induce premature labor.

I directed her to take a physic on the evening of the 8th. At this visit I requested the family to allow me the privilege of calling Dr. D. P. Miller, of Huntingdon, as consulting physician at what time I should deem proper. Called on the morning of the 10th; Mrs. M. received me herself at the door and seemed to be in excellent spirits. To use her own words, she was willing to go through anything if only I would give her a live child. I will state here that one of the most agreeable features in her case was the fact of her being a woman who was not easily alarmed. At 9 A.M. I introduced a sponge tent into the cervix, two inches long, one-half inch in diameter at the butt, with curved forceps, tamponed the vagina with a good-sized sponge, and placed a bandage over the external parts. I then put her under the influence of quinine, which was kept up steadily all through the case. I informed husband and wife that it would take at least three days before the delivery would be accomplished, and that they should both make up their minds to that fact, so as to avoid all possible anxiety.

After introducing the sponge tent, I told her that she should not expect any pain for six hours, and in the mean time to make herself as comfortable as possible.

At about 3 P.M. pains began of a cutting character and kept up at the rate of one every fifteen minutes. These I did not interfere with till about 12 M., when I found they were becoming less frequent. I then removed the sponge tent and found the os dilated to the size of a silver quarter. I then introduced a Molesworth dilator into the cervix, and gradually dilated it with warm water. This brought on pains at regular intervals of five minutes. At 6 A.M. of the 11th, removed dilator and found os dilated to size of silver half-dollar; pains at regular intervals and bag of waters protruding.

I now telephoned for Dr. Miller to meet me between 11 and 12 A.M., which he did. On making examination at that time, found the os gradually dilating, with pains assuming more of a bearing-down character. We then decided to let nature pursue her course for the present and not interfere.

At 10 P.M. we decided to take some rest, leaving orders with nurse to call me if pains altered any in character or frequency. Was called at 4 A.M., and found the pains less frequent. On examination, found the os dilated larger than a silver dollar. Held a consultation with Dr. Miller, and we decided to give her half a teaspoonful of Squibb's ergot, two doses at intervals of twenty minutes. This had the effect of bringing on very severe bearing-

down pains, which continued until 9:30 A.M., when we decided to break the bag of waters and apply forceps. Dr. Miller then placed Mrs. M. under the influence of Squibb's ether, and I applied the forceps, and with the assistance of Dr. Miller delivered her safely of a live girl baby weighing ten pounds, which had to be resuscitated. By 10:30 A.M. had the mother comfortably fixed in bed. Gave her a teaspoonful of ergot immediately after the delivery. I then ordered regular doses of quinine which were kept up until the fifth day. There was not the least unfavorable symptom from one day to another. Lochial discharge faded out gradually; milk made its appearance on third day, and all through there was not any rise of temperature. Patient rested well, without complaining of any pain or tenderness over the abdomen. She was able to leave her bed on tenth day, and declared she was gaining flesh. Baby nursed from the start and thrived right along. Four weeks after the delivery, without my full sanction, she declared she would go home, as she was feeling perfectly well; this she accomplished successfully, a distance of thirteen miles, in a carriage.

Both mother and baby have been doing well ever since; it is now over a year, and the mother is the picture of health.

I was not induced to report this case by the thought of communicating anything new to the profession, but simply as a young man at the foot of the ladder. I thought it might be encouragement to other young men to attempt what to them might appear a very hazardous procedure, but which is really a comparatively simple operation if carefully managed. It was not the first case I was present at, but was the first I had charge of. A very important point in a case of this kind is, that the physician must give it his exclusive attention, letting his practice go, whether it takes three days or more. On consulting books of authority on this subject, you will find a great variety of methods for inducing premature labor recommended, each one of which is strongly recommended by the originator. But probably, of all, there is none safer than the process of dilatation by means of tents; whether it could be depended on completely, is another question. It might prolong the case and make it more tedious, but it will certainly excite contractions of the uterus, and has the advantage of dilating the os to sufficient size to permit the use of one of the large Molesworth dilators. I would, of course, like to have the Molesworth dilators to fall back upon, but I would not be afraid to give the tents a fair trial if I were ever called to another case. In one case at which I was present, the Molesworth dilators were used from the start, the occiput was presenting and

by the use of these dilators to bring on labor rapidly, the head was pushed out of position, and when the bag of waters was broken, the shoulder presented and version had to be performed, which of course exposed mother and child to additional risk. The lady in this case said to me that, if ever she became pregnant again, she would not allow anything but sponge tents and tampons used on her, because in one of her other labors there was nothing used but these, and the case terminated successfully. What is called the usual method in the articles on this subject is simply puncturing the bag of waters; this, of course, looks like a very simple and feasible plan, and probably would be if there was no valuation placed on the life of the child; because rupturing the membranes does not bring on contractions immediately, as it takes some time before the womb becomes irritated by the inequalities of the child, and in the mean time the circulation in the umbilical cord may become interfered with and the child lost. One of the most pleasant features of a premature case is to succeed in getting the bag of waters protruding, for then we have nature's method of dilating, which exposes the os to no danger and makes it easier for the mother. There have been many instruments invented for the purpose of dilating the os and exciting contractions, all of which have certain objections filed against them, particularly when a young and inexperienced hand is about to use them, while, in the use of such things as sponge tents and gum-bag dilators, the physician is using something soft and conforming as near to nature as possible. The operator must make sure that the tent has not slipped from its place, as it is in danger of doing if the patient changes her position. I have recommended the use of the sponge tent as being a very simple process, but there is one fact I have neglected to write of, and that is the danger of sepsis, and as this is a very important feature, careful antiseptic precautions should be employed. It would, perhaps, be safer to use a tent of tupelo. Another point that is likely to make the operation a difficult one, if not an impossibility, is the position of the cervix. I freely confess that on making my first examination of Mrs. M. I did it with considerable trepidation, and felt immensely relieved when I found the cervix not too high up for me to reach it readily, as I had made all my preparations to use the method stated, and did not

feel like undertaking any other process because of my want of experience. Klunge had one case in which the cervix was so high up that he had to abandon his own method after several futile attempts. This I think need not deter a young physician from employing this method; for he is likely to have this difficulty to contend with in the use of almost any process.

A SERIES OF THIRTY-THREE LAPAROTOMIES.
(FIVE HYSTERECTOMIES AND TWENTY-EIGHT OVARIOTOMIES.)

BY

WILLIAM TOD HELMUTH, M.D.
New York.

FROM November until May of this year, I performed five consecutive supra-vaginal hysterectomies, with one death; all of which, I think, present sufficient points of interest to be briefly recorded.

Since January, 1882, until June of this year, I have also made twenty-eight consecutive completed ovariectomies, with seven deaths—a mortality of twenty-five per cent, which is a high rate compared to that of some operators.

The amazing success of Mr. Tait in this department of gynecology is the wonder and admiration of the surgical world. "One hundred and thirty-nine consecutive ovariectomies performed between January 1st, 1884, and December 31st, 1885, without a death." It reads like a fable, and appears as a miracle!¹

As far as I can discover, the general mortality after ovariectomy, in this country, has never been arrived at, it probably being over twenty-five per cent. It is difficult to ascertain the true death rate of these operations, and I agree with Dr. Homans, who somewhere states that the true mortality of ovariectomy will never be known.

This uncertainty will continue, because there exists in the minds of surgeons such a different understanding of the term "successful."

By some the word means that the patient did *not* die upon the

¹ British Medical Journal, May 15th, 1886. Also Medical News, June, 1886.

table, *i. e.*, the operation *per se* was "successful." By others the term is applied to those cases that survive over the tenth or eleventh day. The wound has healed and the operation is "successful," no matter what happens after. Again, others use it to express the fact that the patient lived three or four weeks, *i. e.*, the operation was "successful," but the woman died "from causes that were in no way connected with it." Fourthly, there are those who understand the word "*successful*" to mean, the removal of the tumor, and the ultimate cure of the patient, the recovery being not only from the operation, but from the disease for which it was performed. One can readily understand from these definitions that figures will vary considerably.

In the recent discussion between Schroeder and Tait, and Price and Goodell, several of these peculiarities are pointed out.¹ The fact is, that a spirit of emulation or ambition may be allowed to counterbalance preciseness of detail, and with a hole to slip through, as big as that comprehended by the wide understanding of the term "*successful*," almost any kind of mortality may be made out. Every man must settle these things *in foro conscientiæ*. For instance, talking of the mortality of these operations to a skilful surgeon and asking his figures, he gave me such an astonishingly low rate that I was surprised. But, said he in explanation, "I do not count my first thirteen cases—*because I was learning how to do it.*" It is generally these "first cases" that raise the ratio of one's mortality; indeed with me it has taken years of fairly good work to equalize my first losses—*five in straight succession*—discouraging, disheartening, most unsatisfactory. Whether through more extended experience, antiseptics, or improved hygienic surroundings my mortality is lessening I cannot say, but even with the greatest care I cannot bring it down below one in four.

Bigelow endeavored some years ago to collect the statistics of American ovariectomies exclusive of the scattered cases. Up to the time of his calculation, he made the total number to be 1,577 cases with 1,153 recoveries and 424 deaths, a mortality of about one-quarter. I have carefully gone over these and made the following table :

¹ AMERICAN JOURNAL OF OBSTETRICS, June and August, 1886.

NAME.	NUMBER OF OPERATIONS.	NUMBER OF DEATHS.	PER CENT OF LOSSES.	PER CENT OF RECOVERIES
Kimball.	267	65	24	76
Homans.	69	11	16	84
J. Marion Sims.	45	9	20	80
Byford.	94	23	24	76
Wilson.	9	2	23	77
Murphy.	8	1	12	88
Wiley.	3	0	0	100
McGuire.	19	7	37	63
Thomas.	203	49	24	76
Mundé.	3	1	33	67
Dunlap.	169	35	21	79
Goodell.	61	17	28	72
Janvrin.	1	0	0	100
Baker.	12	8	67	33
Dawson.	5	1	20	80
Reeve.	9	3	33	67
Partridge.	1	0	0	100
Kirkley.	3	0	0	100
Mann.	5	1	20	80
Erich.	7	3	43	57
Latta.	8	4	50	50
Peaslee.	76	38	50	50
Atlee, W. L.	387	127	32	68
Drysdale.	113	19	17	83
TOTAL.	1,577	424	26	80

It must be understood that this table refers only to the removal of ovarian tumors, and that it is intended to show the mortality of American ovariectomies up to that date.

Since the publication of these statistics¹ other reports have been made. Dr. Goodell published a record of twenty-five cases with seven deaths,² and still later states that in his last twenty-two cases he has had but one death.³ Homans, of Boston, has largely diminished his mortality. In a table⁴ giving one hundred ovariectomies up to August, 1882 (although the term "consecutive" is not used) he had eighty-seven recoveries and thirteen deaths; and from August, 1882, until the present (September, 1886), he has made about one hundred and sixty more, with ninety per cent of recoveries—a most excellent showing.

¹ AMERICAN JOURNAL OF OBSTETRICS, July, 1882.

² Medical News, February 10th, 1884.

³ Pepper's "System of Medicine," Part IV., page 314.

⁴ One hundred cases of antiseptic ovariectomy by John Homans, M.D., Boston.

Dr. James B. Hunter, since April, 1885, has performed thirty-nine cases of completed ovariectomy, with seven deaths.¹

Dr. Paul F. Mundé has done thirty laparotomies with eleven deaths. Of these, nineteen were ovariectomies, one gravida five months, recovery, no miscarriage (nine double, five of which had peritonitis), with eight deaths; two hysterectomies, with one death; two oöphorectomies, with no death, and seven pyosalpinx, with two deaths.

Dr. Ludlam, of Chicago, has made two hundred and twelve operations for "tumors," with twenty-seven deaths—twelve dying of cancer.

Dr. I. T. Talbot, of Boston, has performed twelve ovariectomies with two deaths, and Dr. Doughty has made eight, with three deaths.

As far as I can learn, the statistics of the Woman's Hospital have never been published, although I am informed from private sources that the mortality is from twenty-four to twenty-five per cent.

Since the adoption of the word "laparotomy," there has been more confusion in arranging statistics. Laparotomy means an operation upon the abdominal cavity in which the peritoneum is divided. To write "one hundred laparotomies" gives nothing definite, and may include all varieties of operations in surgery, from an exploratory incision to the removal of a cancerous uterus.

To make statistics plain, the writer should say what has been removed: an ovary, a tube, a uterus, a tumor, or a gall-bladder. Neither will a report of so many "abdominal sections" give aid in arranging a mortality list for ovariectomy: it may include enterectomy, gastrotomy, nephrectomy, supra-pubic lithotomy, and a host of other performances. In the cases recorded below, I wish to be understood by the word cured, that the patients were able to get out of bed in due time, to eat, drink, and sleep naturally, and to perform their usual avocations in life.

Some of these accounts are given in the patients' own words, some by the physician in attendance, and others taken from the record books at the hospital where the great majority of the operations were performed.

CASE I.—*Cystic myo-fibroma, interstitial; hysterectomy, with removal of all the appendages. Cure.*

The patient writes from Colorado Springs, and the points of

¹ New York Medical Journal, August 31st, 1886.

interest in the case are the variety of opinions regarding it, given by distinguished gynecologists in this country.

"In 1876, I went to New York, much broken down from malaria. Constant pain in my right side (the lower part) led me to consult my former physician [a late professor of obstetrics], who told me that I had an ovarian tumor, probably dating from a miscarriage in 1873, but as 'in a multitude of counsels there is wisdom,' said he, 'I advise you to consult a surgeon.' I went first to a distinguished gynecologist, since deceased, who told me, after two examinations, that the tumor was too obscure to diagnose; that an operation was certainly not then necessary, but to return to him when I should again be in New York. Two months after, February, 1877, I yielded to my husband's earnest wish, returned to New York, and consulted a renowned specialist who allayed my fears, telling me he did not think I had an *ovarian* tumor, to go home with the assurance that I should never die from that cause. I was then forty-three, may he not have thought it would have been arrested in process of time? For, on consulting him again in October, 1885, he read from the record which he had preserved, that in 1877 I had a 'fibroid tumor as large as an orange.' Still not satisfied, I visited a professor of gynecology, who, in October, 1885, pronounced it 'undoubtedly an ovarian tumor,' advising an operation before December, as 'it was best to do it before very cold weather set in.' This is a condensed form of her report.

When she came under my charge, fluctuation was distinct, the conical abdomen perfect, and every appearance so decided that I agreed with those surgeons who had pronounced the tumor ovarian; but, as usual, I drew a drachm of bloody fluid from that portion of the growth where there appeared to be fluctuation, and sent it to Dr. Dillow for examination. The following is the result:

"NEW YORK, Oct. 30th, 1885.

"DEAR DOCTOR:—The fluid sent by you yesterday showed on examination the following features: Color, reddish, turbid. Reaction, alkaline. Spontaneous coagulum, tenacious, constituting one-third volume. Fluid portion coagulable *by heat* to consistency of cream. Red blood-corpuscles of the utmost variety of forms, very numerous. White blood-corpuscles, scanty. Free nuclei, very numerous. Epithelia, large and squamous, scanty. Hæmotoidin and indican crystals, scanty. The clot showed coagulated fibrin, entangling blood-corpuscles.

"This fluid is cystic, mixed with a good deal of blood, not enough, however, to form the clot present. There are none of the signs pathogomonic of ovarian fluid, or strictly of any other, although the evidence leans, if anything, to a fibro-cyst."

This fixed the diagnosis; there could be no further doubt. The operation was performed on November 3d. The usual incisions were made, and the tumor came in view. Its color resembled exactly that of the celebrated peach-blow vase. The ovaries were

enlarged and adhered to the sides of the growth. The cut was extended above the umbilicus and the tumor turned out; it involved the entire uterus, and was so large at the supra-vaginal junction that Thomas' large clamp could not be made to encircle it. I twisted tightly around the base a good-sized elastic ligature, cut open the entire tumor, and scooped away a large quantity of broken-down material, until the pedicle was of sufficient size to admit the large clamp, which was tightly screwed down. The mass was then cut off with a large scalpel, trimmed to a fair size with a pair of curved scissors, thoroughly cauterized with Paquelin, and thickly sprinkled with iodoform. The stump was fixed outside the abdomen, and the wound (including peritoneum) stitched together. A completely antiseptic covering of corrosive sublimated cotton gauze, protective, and bandage was applied, and the patient put to bed. The dressing remained untouched for eight days, when it was removed. The stump was dry, but suppuration had commenced around the pedicle. The elastic ligature was extended and firmly tied, and the clamp screwed down. Although the patient suffered from shock, she recovered without a bad symptom. Her temperature rose to 100° once, and she never had occasion to take an anodyne, either by mouth or hypodermically.

CASE II.—*Fibro-cystic myomata undergoing disintegration, simulating abscess of the abdominal parietes; supra-vaginal hysterectomy. Death.*

This operation was performed six days after the above. The case was peculiar, because the microscope made the diagnosis. I was called to Long Island to see the patient, a couple of weeks before she was admitted to the hospital. Her age was fifty-five years, and she never had borne children or had a miscarriage. The first symptoms were neuralgic pains in the right hip, and soreness in the region of the bladder, with frequent inclination to urinate, which finally developed into cystitis. After the climacteric, which had passed six years, she noted a gradual enlargement of the abdomen, with hardness of one side. When I visited her, I found her resting on her right side, suffering severe pain, but able to rise. She had been a vigorous, self-contained woman, and was by no means timid. Upon uncovering the abdomen, I was positive that I had an abscess of the abdominal parietes to deal with; the right lumbar and hypogastric regions were dusky red in color, gradually fading into the parchment-like hue of the rest of the abdomen. There was distinct fluctuation; her temperature was $103\frac{1}{2}^{\circ}$, and her pulse 120; her legs were enormously swollen. I was so sure of my diagnosis that I put in a needle, and to my surprise drew nothing but a very viscid bloody fluid. A more careful investigation by the microscope showed:

A fibro-myoma undergoing degeneration, although I had hoped the suppurating cyst might be ovarian.

When she arrived at the hospital, she was in bad condition, but she was anxious, and so was I, to remove the tumor, and though she had a temperature of 104° when she went upon the table, it was thought advisable to continue the operation. The peritoneum was adherent everywhere, and there were large cavities containing grumous pus within the cysts. The tumor weighed twenty-eight pounds. The pedicle was treated with Thomas' clamp, India-rubber ligatures, and in addition the large steel pins of Dr. Wilcox. She only half rallied from the operation, and died on the second day from shock.

CASE III.—*Fibro-myoma; supra-vaginal hysterectomy. Cure.*

Mrs. L., æt. 42, menstruation regular and very profuse; lasting sometimes ten days. She has borne two children, her last delivery being in 1875. Eight years ago, she noticed an enlargement about the centre of the abdomen which has gradually increased. The surface of the belly is smooth, round, hard, and symmetrical. She has had sharp, darting, lancinating pains which within the past year became unendurable, and at times greatly prostrated her. The tumor is now growing rapidly.

In this case, the diagnosis was readily made out, and the operation was performed the day after that of the case just narrated, and done in the same manner, excepting that, as the pedicle was smaller, I used Tait's clamp. The pedicle was brought outside the abdomen, burned, iodoformed, and otherwise antiseptically treated. The patient never had a temperature above 101° , and made a rapid recovery.

CASE IV.—*Interstitial fibro-myomata; profuse and exhausting hemorrhage; hysterectomy. Recovery, with a urinary fistula.*

The patient, aged 47, and unmarried, gives the following account of her sufferings:

"The presence of the tumor was first suspected in the autumn of 1875. No troublesome symptoms were experienced until the following summer, when I began to bleed profusely at each menstrual period, at which time I consulted my medical adviser. He urged an examination by a female physician, which was made and the diagnosis given 'of fibroid tumor outside of the uterus.' *She warned me against any surgical measures* and advised a general tonic treatment.

"In the winter of 1879, I had a very serious uterine hemorrhage, was examined by another female physician, who stated that the 'exterior tumor' had disappeared, but that there was 'one growing on the "interior" of the uterus, weighing about six pounds.' I remained under her care and that of another physician of my own sex until 1882, when I consulted a celebrated surgeon in New York, who advised treatment by electrolysis. This I employed for many months until the electrician deemed it advisable to discontinue the use of the needles, and thought the Salisbury diet would complete the cure. After using this for some time I was attacked by what several physicians pronounced

'scurvy,' and prohibited the further use of the meal. After this, until 1885, I continued to enjoy comparatively good health, and the tumor remained stationary. At this time my system received a severe nervous shock, the tumor commenced to grow rapidly, and the hemorrhages increased in quantity and frequency until they entirely prostrated me." When I saw her, she was in a truly miserable condition—emaciated, anemic, sleepless, and apprehensive.

The operation was performed on March 23d, and was in all particulars similar to the last. India-rubber ligature, pins, Tait's clamp. The tumor weighed twenty-four pounds, and the ligature had to be applied very low down. Everything went well, but on the fourteenth day after tightening the India-rubber ligature, the nurse informed me that the entire bed clothes and dressings were wet. An examination showed the fluid to be urine. I at once surmised that, though I had stripped the bladder from the anterior face of the uterus as far as I could get it, yet the ligature or clamp must have embraced a small portion of the fundus of the organ and cut it through. Notwithstanding this, the patient made a good recovery and left the hospital on April 26th, about half the normal quantity of urine passing through the urethra and half through the fistula. I think a somewhat similar case was reported as occurring last year in Albany.

In August she writes me as follows from Detroit:

"I have only to tell you of steady improvement, and that the 'hole' is almost healed, and the urine has almost ceased to flow through it. It had been passing into the vagina until last week, when I had an acute attack of inflammation, followed by a profuse discharge. After that the urine passed in the natural way."

CASE V.—*Large myo-fibroma, fibro-cystic; both ovaries enlarged; left one cystic; supra-vaginal hysterectomy. Cure.*

Mrs. F. W., aged 44 years. Married twenty-four years. Has had eleven children and six miscarriages. Tumor first noticed five years ago, one and a half years after the birth of her youngest child. After the discovery of the growth, she had two miscarriages. During the last four years, the hemorrhages have increased in frequency and profuseness, until at present they have reduced her strength to an alarming degree. The superficial measurements of the abdomen are as follows:

From umbilicus to pubis,	12 inches.
Around the waist,	30 "
" " hips,	43 "

Status presens.—At times the tumor grows rapidly, then it appears to remain stationary, and again increases in size. At irregular intervals there is excessive soreness (diffuse peritonitis) over the entire abdomen, which gradually passes away. As she slowly wastes, she has also become the victim to severe neuralgia.

The operation was performed on April 22d, and in a similar manner. The tumor was turned out and the broad ligaments ligated with gut, and the pins inserted, after which the India-rubber ligature was applied; the cysts, of which there were five, emptied of their contents which in many of the cavities was colloid; the clamp (Tait's), the cautery, iodoform, and bichloride dressing applied. The pedicle came away on the twenty-first day, and the woman returned home in six weeks, cured.

The success of these operations, in my judgment, depended, 1st, on the extra-peritoneal treatment of the pedicle; 2d, the use of the India-rubber ligature which prevented hemorrhage while the cysts or tumor were being emptied, and allowed the clamp to be more readily adjusted; 3d, the application of the Wilcox pins, which are of steel, bayonet pointed, supplied with heads which are fitted with a screw, to be removed at pleasure.

The following is a brief record of the operations performed (*for tumors*) upon the ovaries, exclusive of abdominal sections for pyo-salpinx, hysterio-epilepsy, profuse menstruation, or dysmenorrhea. The operations are consecutive and embrace every case without omission.

CASE I.—Aged 33. Unmarried; double ovariectomy; drainage; pedicles ligated with gut. Suppuration from left stump. Washed cavity with solution *carbolic acid*. Recovered. Operation January 15th, 1882.

CASE II.—Aged 27. Married; no children. Both ovaries removed (cystoma ovarii papillare). Clamped pedicles, then ligated with carbolized silk; removed clamp; applied Paquelin's cautery. Drainage tube employed. Recovered. Operation performed February 17th, 1882.

CASE III.—Aged 41. Married. Right ovary removed; many but not dense adhesions, especially posteriorly; multilocular colloid cyst. Clamp, ligature, and Paquelin's cautery; the clamp removed and pedicle dropped back. Recovery with severe cystitis. Operation performed March 28th, 1882.

CASE IV.—Aged 25. Married; one child. Monocyst (?) of left ovary. No adhesions; no drainage tube; pedicle treated as above; tumor weighed twenty-eight pounds. Recovery. Operation May 10th, 1882.

CASE V.—Aged 53. Unmarried. Colloid multilocular cyst of left ovary; many dense and very vascular adhesions; stuck everywhere. Tied adhesions with carbolized gut. Pedicle clamped first, tied above clamp in three sections with silk; seared with the cautery, as were many of the adhesions. Drainage tube. Died of peritonitis on the third day. Weight thirty-two pounds. Operation June 13th, 1882.

CASE VI.—Aged 55. Unmarried. Right ovary removed. Anterior parietes of tumor adherent to peritoneum, and was with much difficulty separated. Numerous omental adhesions. Multilocular colloid cyst; semi-solid. Pedicle treated as above; drainage tube used. Died of peritonitis on the fifth day. Operation November 4th, 1882.

CASE VII.—Aged 31. Unmarried. Left ovary removed. Pedicle treated as above; few adhesions; no drainage tube. Jaundice on third day, from a violent fit of anger. Weight of tumor twenty-four pounds. Operation December 29th, 1882. Recovery.

CASE VIII.—Aged 33. Married; one child. Multilocular colloid cyst, thin walls; vascular adhesions. On the evening of the fifth day, chills and sweats. Septicemia. Pulse 130; temperature $103\frac{1}{2}^{\circ}$. Phenic acid nascent, in sixty-minim doses, hypodermically; the cold coil. Aconite and belladonna, together with abdominal washings twice daily. Cure. Drainage tube removed the eleventh day. Weight of tumor twenty-five and a half pounds. Recovered. Operation May 23d, 1883. Left ovary removed.

CASE IX.—Aged 43. Married; fourteen children, and tumor thirteen years old. Enormous distention of abdomen; unable to sit up for over a year before I saw her, and could keep no food upon the stomach. Multilocular colloid cyst, containing fluids of many colors and varied consistency. Adhesions everywhere; left ovary; prolonged operation. Drainage tube used. Weight of tumor ninety-eight pounds. Died from asthenia on the third day. Operation May 26th, 1883.

CASE X.—Aged 22. Unmarried. Suffering from malarial fever; colloid right ovary. Drainage tube used. Septicemia on the fifth day. Weight of tumor thirty-five pounds. Operation June 25th, 1883. Pulse never below 130. Temperature $102\frac{1}{2}^{\circ}$ at the time of operation. Died the eleventh day of typho-malarial fever.

CASE XI.—Aged 63. Married; four children. Solid tumor; long incision; many and dense posterior and lateral adhesions; left ovary; tied pedicle with Staffordshire knot and seared the stump with Paquelin's cautery; drainage tube. Operation August 18th, 1883. Recovered.

CASE XII.—Aged 40. Married; two children; one severe miscarriage. Tumor aspirated July, 1883. Parovarian cyst, right side; weight ten pounds; no drainage. Employed the Staffordshire knot and cautery for pedicle. Recovery. Operation October 4th, 1883.

CASE XIII.—Aged 26. Unmarried. Parovarian cyst, right side; tumor tapped five years before. Staffordshire knot. Recovery. Weight of tumor fourteen pounds. Operation October 30th, 1883.

CASE XIV.—Aged 50. Married; two children. Last delivery

fifteen years ago, tumor growing for nine years; broad pedicle, tied in two sections with Staffordshire knot, then cauterized; drainage tube used for eight days. Weight of tumor thirty-nine pounds. Recovery. Operation January 11th, 1884.

CASE XV.—Aged 50. Married; two children; no miscarriage. Last delivery fifteen years ago. Menses ceased two years ago. First symptoms of pain, etc., nine years ago. Size of tumor much increased since October, 1883. Colloid cyst of ovary weighing forty pounds. Highest temperature third day, 101°. Operation January 21st, 1884. Cured.

CASE XVI.—Aged 31. Unmarried. About one year ago, while treating patient for peritonitis, her physician noticed a swelling in abdomen. Had had a number of attacks of acute peritonitis. Traced her trouble to the efforts to extricate herself from a bog into which she sank waist deep six months previous. Circumscribed swelling in abdomen. Peritoneum four times natural thickness. Traces of inflammation then existing. Cyst found ruptured into abdomen. Died fourth day, from peritonitis. Operation March 1st, 1884.

CASE XVII.—Aged 40. Married. Patient noticed swelling four years ago; grew rapidly. When I saw her, the flattened appearance of the abdomen and the bulging of the flanks, without perceptible line of dulness, gave grave doubts as to the character of the swelling. I therefore drew the fluid and sent it for examination. The following is the result:

“NEW YORK, June 1st, 1884.

“DEAR DOCTOR:—The fluid from an abdominal tumor left to-day for examination showed the following: *Color*, opaque chocolate; *reaction*, acid. The fluid has the characteristics of an ovarian tumor. The acid reaction is remarkable.”

Abdomen opened; found full of colloid material and the remains of a sac, having two smaller colloid tumors near the pedicle; cavity cleansed; Staffordshire knot; profound shock; recovery. Operation June 5th, 1884.

CASE XVIII.—Aged 37. No children; no miscarriages. Puberty reached at 11 years. Menses early and profuse. Enjoyed good health up to ten years ago, excepting too profuse menstruation. Soon began to decline; menses lasting two weeks, with profuse leucorrhea the other two. Both cystic ovaries removed. Insomnia and restlessness followed operation. Seventeenth day, marked rise of temperature, with anorexia and sleeplessness. Abscess developed and discharged. The Staffordshire knot. Cure. Operation October 4th, 1884.

CASE XIX.—Aged 20. Unmarried. Enlargement of abdomen and suppression of menses for six months. Tumor removed weighing twenty-seven pounds. Tenth day, rise of temperature; 104°; forty minims of phenic acid used morning and evening. An abscess formed in abdominal cavity; discharged one and one-half

quarts of pus through abdominal wound, followed by feces, leaving a fistula. Recovered from all. Operation October 21st, 1884.

CASE XX.—Aged 46. Colloid cyst of right ovary. February, 1884, noticed swelling of the hypogastric region, associated with no symptoms. Examination of fluid withdrawn was sufficient for diagnosis. Tumor twenty-six and one-half pounds. Cured. Operation December 18th, 1884.

CASE XXI.—Aged 29. Married five years; one child. Tumor growing one year; abdomen measured fifty-five inches; patient much emaciated and confined to the bed; adhesion dense, requiring several ligatures; Staffordshire knot; cautery; cure. Operation March 21st, 1885.

CASE XXII.—Aged 36. Has had exhausting hemorrhage at the time of menses; weak and anemic; great deal of pelvic peritonitis and cellulitis. Examination showed a large fibroid attached to posterior wall of uterus. Operation May 4th, 1885. Both ovaries removed; right was degenerate; pyo-salpinx of right tube; two colloid cysts of left ovary. All the parts were distorted by previous inflammation and were scarcely recognizable. The fibroid was so firmly adherent as to be immovable. Patient became blue in parts while on the table. Reacted and vomited some. May 5th, pulse 160; temperature $98\frac{3}{4}$. Aconite, hypericum, veratrum viride, of no avail. Entire suppression of urine. Pulse 180. Pain in precordial region; pulse weak, fluttering. Digitalis infusion, no effect. Extremities cold. Anguish. Death at 5 P.M.

CASE XXIII.—Aged 24. Ruptured colloid cyst. Last fall, suffered from nausea and vomiting, which continued till May, 1885, when a swelling appeared in right abdomen. Much colloid matter in abdominal cavity from an opening in the sac above external incision. Staffordshire knot. Pedicle cauterized, doubly ligated, and returned into cavity. Cured. Operation September 28th, 1885.

CASE XXIV.—Aged 26. Ovarian cyst. Four years ago, pain in right abdomen. Two years ago, glands swelled, continuing for a year. Has had various attacks of pain, anorexia, indigestion, constipation, etc. In winter, detected swelling of abdomen. Sac evacuated. Double ligature around pedicle, which was cauterized and returned into the abdomen. Wound closed with silver sutures. Cured. Operation October 5th, 1885.

CASE XXV.—Aged 28. Parovarian cyst. Menstruation normal; no leucorrhœa. Last August, noticed bloating; weakness and exhaustion; sense of dragging. Double ligature to pedicle, which was small. Died from shock, eighteen hours after being put to bed. Abdominal cavity filled with bloody serum. Operation November 6th, 1885.

CASE XXVI.—Aged 28. Has had two children. Last delivery twenty months ago; then had an encysted peritoneal dropsy which lasted seven weeks after the birth of the child. After

this disappeared, the abdomen again enlarged, and without apparent cause sudden symptoms of collapse and a profuse discharge of serosity took place when the swelling subsided. After a time, the tumor again developed. Knowing the difficulties which surround the diagnosis of encysted peritoneal dropsy, I had a portion of the fluid examined. The answer fixed the diagnosis.

Both ovaries were removed. The right was much larger than the left, and both contained colloid. The temperature never rose above $100\frac{1}{2}^{\circ}$. Cured. Operation May 3d, 1886.

CASE XXVII.—Aged —. Had been examined by a surgeon, who pronounced the tumor to be fat, and recommended violent exercise. Simple cyst of right ovary. Weight twenty pounds. Operation occupied twenty minutes. Cure. Operation May 21st, 1886.

CASE XXVIII.—Aged 29. This deserves more than a passing notice, and I therefore give the previous history in detail, from her physician, Dr. Laird:

“Miss ——— has been under my care occasionally during the past three years. In August and September, 1883, she had a severe bilious fever, from which she made a good recovery. In the autumn of 1884, she was again sick for about a week. I cannot now recall all the particulars of that illness, but distinctly remember that the urine was scanty and loaded with urates, and that there was a considerable accumulation of hardened feces. On the first of last April, she called at my office to consult me about an enlargement of the abdomen, and protrusion of the umbilicus. Upon examination, I found the abdomen symmetrically enlarged, and she assured me that the swelling had never been *unilateral*; it had been gradually growing since the previous autumn. I also found in the median line a soft, doughy tumor. The urine was scanty, with abundant “brickdust” sediment; the bowels were constipated, and she had much flatulence. It appeared like a case of impacted feces. On the 6th of April, I was again called to see her. I found a decided increase in the enlargement, and no relief from the constipation. On April 14th, there were marked symptoms of intestinal obstruction—tympanites, severe pain, and later, stercoraceous vomiting. I finally succeeded in obtaining a stool after the obstruction had persisted about a week. The bowels moved very freely for several days; the feces were semi-liquid, with occasional hard lumps. As soon as the obstruction was removed the vomiting and pain subsided. I then made the discovery that there was considerable fluid in the abdominal cavity, and could feel indistinctly a hard mass in the median line below the umbilicus. The urine was scanty, about half a pint per diem, and loaded with urates, but a careful chemical and microscopical examination failed to detect anything else abnormal. The swelling gradually increased, and finally there was edema of the feet and legs. May 15th, I drew off with the aspirator two and one-half gallons of straw-colored fluid, highly albuminous, and having a sp. gr. of 1.012.

"The abdominal walls having now collapsed, I was able to make a thorough examination, and found a tumor in the median line, extending nearly to the umbilicus. It was about the size of the uterus at the fifth month of gestation. I was unable to trace it to either ovarian region, and found that it moved with the womb, but not to the same extent; the uterus itself was enlarged. My diagnosis was fibro-cyst of the uterus. Immediately after the tapping, the patient was much relieved, and the urine became clear and abundant. The edema of the feet and legs also disappeared. Nevertheless, the abdomen again began to enlarge, and at present is nearly as large as before; the greatest measurement has been thirty-six inches about the umbilicus. The bowels are now moving naturally, the kidneys perform their functions normally, and the patient sleeps well and has a good appetite." It was again for the microscope to decide the diagnosis.

The fluid first drawn presented only the appearances of ascitical, the second, evacuated through a larger needle, showed as follows:

"The specimen of fluid from the abdomen of a young lady showed the following: Viscidity, medium; color, none; spontaneous coagulum, none; nitric acid indicates more than one-half of one per cent albumin.

"Heat produces coagulum soluble in excess of acetic acid (paralbumin); reaction, very slightly alkaline. The fluid is not ascitic, but in all probability comes from an ovarian or parovarian cyst. If there were less albumin, I should say the latter, decidedly.

"Yours very truly, GEO. M. DILLOW."

Upon opening the cavity of the abdomen, a quantity of ascitical fluid gushed out, and was so profuse that, upon turning her over, almost a pailful of serosity escaped. The tumor came then into view, and was so hard and nodulated in portions that I supposed I had made a mistake in the diagnosis. Upon turning out the growth and separating the adhesions, a good pedicle was found, ligated, and cauterized as usual. The woman made a rapid recovery. Upon examining the tumor, it was found to contain no less than seventy-six pieces of bone of various and peculiar sizes, several tufts of hair, a quantity of teeth, lime, and colloid substance. Operation performed June 4th, 1886.

In all these operations since the summer of 1883, I have employed the Staffordshire knot and the cauter, for the pedicles of ovarian tumors; have always used the tincture of hypericum to relieve the pain immediately after operation. In many cases have entirely dispensed with the use of morphine. When distention of the bowels is severe, I prescribe chlorate of potash, and use the rectal tube, and am happy when that *signum salutis* (wind from the rectum) takes place. When fever begins, aconite is almost a specific. When the gastric symptoms predomi-

nate, nux. vom. is sometimes indispensable, and when peritonitis threatens, the cold coil externally, and belladonna internally are used with advantage. When the temperature rises, and chilliness and shuddering indicate suppuration, calcium sulphide, with the carbonate of lime, have often been of material benefit.

TWO CASES OF RUPTURE OF THE UTERUS IN THE PUERPERAL STATE.

BY

S. MARX, M.D.,

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IN one of the cases cited below, the diagnosis of a rupture was verified on autopsy, and all the symptoms were clear and well defined; while in the other, although the symptoms and all the circumstances connected with the case were such as to warrant me in making a diagnosis of uterine rupture, no autopsy could be obtained, so that the correctness of this supposition could not be substantiated.

CASE I.—Primipara, æt. 23; single. Previous history good. Has always been well since infancy. Slender blonde; good muscular and osseous development, and looks the picture of health. Labor began at term, March 2d, at 2 A.M., with slight nagging pains. Called in a midwife who found os just beginning to dilate. Head fixed in the pelvis; child alive. Its heart tones clear, distinct, and of normal frequency. General condition of patient good; pulse and temperature normal. Pains good and regular all day.

March 3d. Labor progressing very slowly; membranes ruptured some time during the night. Heart tones of child not heard this morning. Os size of twenty-five cent piece; rim sharp and well defined, in close contact with the head, which was now firmly fixed in the pelvis. Pulse accelerated; temperature 103.3°; condition the same all day. Called to see the patient at 6 P.M. and found her in fair condition. Pulse and temperature but slightly increased. Examination revealed a large child in the V. R. O. A. position. Loud uterine bruit present. Child's heart tones not heard. Os dilated to size of fifty-cent piece; very sharp and tense; low in the pelvis. Vagina in normal condition. Discharge

slightly bloody; no fetor; no cause ascertainable for the tedious labor, except the premature discharge of the amniotic fluid, as the pains were strong and good, and everything favorable for a speedy delivery. Ordered hot douches. From the midwife's notes I record the following: Pains good all night and os slowly dilated, so that the head descended to the pelvic outlet. Temperature during night 101.3°; pulse 100; vaginal discharge not noted.

March 4th, 9 A.M. Called and found patient in deep collapse, which came on with great pain in the abdomen at the height of a contraction. The head, which was at the outlet, did not recede. Child speedily delivered, found dead and macerated, placenta and membranes expressed entire. The mother's condition was that of profound collapse; the abdomen had become very suddenly tympanitic. The distention extended high up under the costal cartilages, driving them out in a marked degree. Percussion note highly resonant, so that any dulness in the abdomen was not discoverable. In spite of all treatment, the patient died in one hour.

The diagnosis in this case was clear, a rupture of the uterus.

Autopsy.—I shall record only the condition of the genitalia: High in the vagina was a puerperal diphtheritic line of ulceration which extended over the cervix in the median line. The endometrium of the anterior uterine wall was the seat of the same ulcerative process. Above, it terminated in a circular spot of ulceration at which point the fatal rupture occurred. The lesion extended through the mucous membrane and partly into the muscular coat, leaving the serous covering unaffected except for a slight fibrinous exudation at this point.

Here, then, we have a vaginitis, endometritis, and diphtheritic metritis terminating in a rupture.

There can be no doubt that the primary cause of all this trouble was an infection of a septic nature, occurring before the termination of labor, which produced such lesions of the mucous and muscular coats of the uterus that, in its weakened condition, it could not withstand the pressure of an active contraction. That the infection was direct from midwife to patient cannot be doubted, as all the features of the case, the rise of temperature, depression of the pulse, the septic condition before death, and the evidences shown at the autopsy, I think, are conclusive enough to show that the infection was introduced early in labor. Why not say it was due to atmospheric infection, as is frequently done when some person is trying to shield himself from blame? That the atmosphere is rarely, if ever, the carrier of infection has been proved almost beyond a doubt (Winckel, "*Path. u. Therapie d. Wochbet.*"). There is no more truth in the theory of atmospheric infection than there is in the statement that there is such a disease as milk fever. A diagno-

sis of such a disease is absurd, for in every case should the physician look further; he will find some other cause for this thermal rise. A congested mamma, constipation, ulceration in the vagina, and so on, will give a temperature quickly, and a high one at that. This case was to me of great interest for several reasons: 1st. As being a case of uterine rupture. 2d. As being a case of so-called puerperal fever, the cause of which was a direct infection occurring before labor terminated. 3d. As showing evidences of a diphtheritic ulceration which certainly must have been present during the progress of labor. 5th. On account of the unusual cause of the rupture—a diphtheritic ulceration.

CASE II.—Mrs. H., æt. 40, IVpara. Stature small. Development and general condition poor. Fairly marked anemia. Had rachitis when a child. Has had three children. Their birth not attended with any difficulty. Children at birth very small, probably premature, from the history of their condition as stated by the mother. Previous health good. During present pregnancy her health had been excellent. Labor commenced at full term, March 23d, 2 A.M. Immediately called in medical attendance. Os was found nearly fully dilated. Head still movable above the brim. This condition remained about the same all day, with strong pains, which were intensely painful. Saw the case this evening about dusk. *External* examination showed the head to be engaged. Back of child on the right abdominal side, feet upper and left side. Heart tones to the right below the navel, very irregular, running from 70 or 80 to 120. A strong umbilical souffle was heard at this point. The internal examination revealed at V.R.O.A. position. Head fixed, the small fontanelle anterior and to the right. Os fully dilated. Vagina edematous, hot, and painful. In order to examine the pelvis thoroughly, I introduced the hand into the vagina, and found considerable contraction at the inlet. The promontory jutted forward considerably, making almost an acute projection into the pelvis. The diagonal conjugate was less than ten centimetres. The head was very large, and a decided caput succedaneum had formed. Meconium discharge was present. Temperature 100°. Pulse 160, full but very compressible. Patient felt worn out and tired. Urine and bowels moved spontaneously. Owing to the threatened death of the child and the condition of the mother, I proceeded to apply Simpson's forceps, the application of which proved very difficult. The left blade would be almost every time displaced by the projecting promontory. After repeated attempts I finally locked them. The delivery proved difficult, and more force was applied than was safe to either mother or child. After traction of ten minutes, the forceps were removed, but the head had not perceptibly moved. Listening to the heart tones of the child, I found them still weak and about 80 per minute. Knowing how difficult the delivery

would be, I favored perforation and extraction, but was met with a stern refusal by my colleague. Argument did no good. I had an extreme conservatist to deal with. Placing the woman on the right side, the forceps were again applied, direct backward traction made, and after about twenty-five minutes, the head passed the contracted portion with an audible snap. Perineum intact. Placenta and membranes entire, half-hour post partum. Patient came out of the narcosis in good condition and expressed herself as being happy that the child was born. Child male, strongly asphyxiated when born. Resuscitated by Schultze's method. Weight 4,500 grammes (average 3,200). Its head was hydrocephalic and had a circumference of 37.5 centimetres. The head was badly wounded; a deep depression about the breadth of two fingers was found at the upper and right portion of the left os frontis, produced by the continuous pressure against the promontory. On the upper part of the right facial region, including the right eye, the epidermis was absent, the parts black, and the eye closed. On the left parietal bone was also a deep furrow. The two latter places were the contusions caused by pressure from the forceps. On the second day, a hematoma appeared on the left parietal bone, which suppurated and was opened. On the sixth day, the child showed symptoms of an acute meningitis and died the next day.

Post Partum History of Mother.—No reaction followed the delivery.

March 24th, A.M.—Patient in good condition. No pain or tenderness anywhere. Temperature normal. Pulse good, 80. Lochia scanty, bloody, and sweet.

March 24th, P.M.—Notes the same. Condition very satisfactory.

March 25th, P.M.—Patient, who had been in good condition previous to this hour, suddenly collapsed. The midwife noticed the pale, anxious countenance. The medical attendant gives the following history: The woman complained of sudden abdominal pain. Lochia scant and sweet. No evidence of bleeding. He found the patient in an extreme collapse. Respiration superficial and sighing. Pulse small and compressible, 180. Temperature 97.1°. No paralysis present. No cough or bloody sputa. Mind clear.

Heart.—Rapid and feeble; except this, nothing abnormal found.

Lungs.—Suspecting an embolus of the pulmonary artery, the lungs were as carefully examined as the condition allowed. Percussion and auscultation normal, except somewhat sharpened breathing on the right side behind. The abdomen had become suddenly very tympanitic, except at the dependent parts in a circle from right to left, where the percussion note was very flat. Uterus could not be mapped out, neither by palpation nor percussion. The examination was not pushed further, on account of the death of the patient.

An autopsy was not allowed, so that a positive diagnosis could not be made, but by carefully excluding those conditions which might be mistaken for it, by thoroughly weighing each symptom individually, the sudden collapse without premonition, the absence of striking pulmonary symptoms, the marked abdominal symptoms, I concluded to diagnose this case as one of rupture of the uterus on the second day post partum. Numerous as the conditions are which simulate this case, time will allow me only to mention a few of them. The most frequent causes of sudden death in the puerperal condition are:

I. Embolus of the Arteria Pulmonalis. Absence of a murmur in the pulmonary vessels, indicating an obstruction, the absence of local symptoms, as dulness on percussion, or a decided change in the vesicular character of the breathing, the intensity of the sudden pain in the abdomen, with the intense meteorism present, are all against the diagnosis of embolus. Cases have been recorded in which general symptoms only were present, very much like those in the above case; especially have I reference to the case of Cruveilhier, whose patient died on the sixth day. On percussion nothing at all was found, and on auscultation only a few almost inaudible mucous râles were heard.

II. Syncope and heart paralysis, whether depending on an organic or inorganic trouble. Among the organic lesions may be mentioned fatty heart and acute myocarditis. These conditions, especially the former, can be at least surmised if not diagnosed by auscultation and previous history of the patient, and, furthermore, they do not come on so suddenly as to throw the patient into a fatal collapse without premonitory symptoms, especially is this so in cases of fatty heart. In my case, there was nothing to be noticed in the heart up to the time her malady appeared. An interesting case of death in the puerperal week from an acute myocarditis is cited by Spiegelberg. In this patient, there occurred a heart rupture on the third day post partum. No symptoms whatever occurred to indicate any trouble, so insidiously did it come on. Besides the above troubles, one might think of entrance of air into the circulation, and rupture of the gut from pressure causing ulceration, the differentiation of which I shall not attempt; finally, a very acute case of virulent septicemia which runs its course in a short time, so quickly that the local symptoms have hardly time to manifest themselves. But, in the above case, the absence of

a thermal rise and of previous severe constitutional symptoms would exclude this. In concluding this short differentiation, I may say that a distinct diagnosis between a pulmonary embolus and a late uterine rupture was next to impossible in this case. In introducing the forceps, I must of necessity have passed them into the uterine cavity, and, by the continuous and powerful manipulation which I brought to bear, may have given rise to a deep lesion in the wall of the uterus, and in this way a seat for ulceration was started (Scanzoni, "*Geburtshilfe*"). It is my opinion that the case should not have been delivered in this way after the first application of the forceps. Had the case occurred in a woman with a roomy pelvis, the forceps would certainly have been indicated, and this on account of the child's condition. Three symptoms of all importance were present which indicated that fetal life was very much endangered, and I certainly know that if the forceps were more often applied when these symptoms presented themselves, more children would be saved. If the forceps were less applied for the fact that the mother was tired or sleepy, or the regulation one or two hours for the second stage were up, and more applied for the child's safety, a good deed would be done. The three symptoms which indicate danger to the fetus are:

I. Slowing of the heart's action between and during the pains, say a fetal heart of eighty, or a gradual sinking of the tones during each pain, or especially where the heart tones have been good and suddenly cease. If the sounds sink to eighty or seventy in a pain, but rise again to one hundred and twenty or one hundred and forty in the intervals, there is no danger to be apprehended. But if, in a given case, the heart tones should even be one hundred for a considerable time, the case should demand the entire attention of the physician, and even under these conditions, especially if the woman had previously borne dead children, it would be well to terminate the labor, providing the condition of the parts allowed it.

II. Escape of meconium is a symptom of great importance. It shows that there is a paralysis of the voluntary muscles, and especially the sphincter ani, from some cause, and most frequently this is carbonic gas poisoning. Should this symptom be present with a fetal heart of eighty, the most urgent symptoms are presented to the accoucheur for a speedy delivery. Time and time again have I noticed this, and it often was the only

cause for terminating a labor. I have yet to see the case in which the child was not to some degree asphyxiated where these two symptoms were present.

III. The umbilical souffle is a symptom, when present, not to be forgotten. It reminds one of a soft, blowing murmur, synchronous with the fetal heart. It is caused by the cord being subjected to pressure, either from being around the child's neck or around its body, or pressed against the uterine walls; therefore it should be found in every case where it is suspected that the cord is being pressed upon.

In the above case, we see a multipara with a contracted pelvic inlet in labor for over sixteen hours in the second stage, with good pains all this time, a very large fetus, a child in imminent danger. In such a case, the mother should be given a chance, especially after the forceps have been applied and have failed to deliver the child. Means should then be used to destroy the life of the fetus. What would have been simpler, and at the same time safer to the mother, in this case, than a perforation and the cranioclast? I feel almost certain that, had the child been destroyed, the mother's life would have been saved. As it was, both lost their lives.

INTUSSUSCEPTION IN CHILDREN.

BY

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THE article in the JOURNAL for July, under the above heading, has been of great interest to me, and perhaps to many others of my professional brethren. They, with me, will join in thanking Dr. Forest for supplementing our knowledge, combined as it is with a lack of ingenuity, by his readiness of resource.

I wish to give in this article a history of three cases, in one of which an error in diagnosis was made, by both my colleague and myself; the other two being simple cases, easily recognized, and by the use of Dr. Forest's apparatus, slightly changed,

treated readily and successfully. Before deciding to report case I., I looked up what references I had at hand in order to discover whether my error was on account of ignorance pure and simple, or whether others had made errors similar to mine. While I find no similar cases reported, the conclusion has not forced itself upon my mind that I am woefully ignorant, but rather that the case is a singular one. I give it in order to show how we may be misled, and with what results to our patients.

CASE I.—Bowman, æt. 5 years, male, was brought into the office April 28th, 1886, and was examined by my partner, Dr. Jenkins. At this time the mother gave him the history, subsequently repeated to me, that for three weeks preceding this time the child had colicky pains over the entire abdomen, so severe that he would cry out at intervals of a few minutes. Previous to bringing him to our office, she had consulted another physician, who, remarking that nothing was wrong, had ordered castor-oil. A further point in the history of the case was that the child never took the trouble to masticate his food, always swallowing it whole. There was no history of vomiting and the bowels were said to be regular. On examination of the abdomen, a long, hard, tumor-like swelling was found lying to the left and on a level with the umbilicus. Manipulation of this mass or swelling occasioned no pain to the child. The pulse, tongue, and temperature were normal. Supposing the presence of a mass of hardened feces, hydr. chl. mit., gr. iss. in twelve powders, was ordered, one powder to be given each two hours until the bowels moved freely. On April 30th, the tumor had disappeared and the patient felt and looked better and brighter. The mother stated that the child had passed five large pieces of banana which she remembered he had eaten about two weeks previously. There was now no trouble for several days, when a neighbor, in the goodness of her heart, gave the child several cubes of green rhubarb, which were bolted as usual. Soon the bowel pain reappeared, for which the mother gave several of the calomel powders, six having previously been given. The following morning the patient was brought to the office, at which time the symptoms were the same as before, still no constipation or vomiting. For the pain a solution of morph. bimeconate was ordered to be given each hour. In the evening the child was brought back, at which time I first saw the case. The abdomen was soft. There was not excessive pain, and no tenderness. The tumor was distinctly felt in the transverse colon over toward the left, and was about two inches long. The bimeconate solution was continued, and a poultice ordered to be retained till the patient was seen in the morning. In the morning the pain had almost entirely ceased, and the tumor appeared smaller and softer. Two days later, when seen again, the tumor was felt low down on the

right side and was not giving any pain. From this time for a week or more the patient was better and worse, alternately, and under the use of magnesia sulph. in broken doses, the tumor appeared to be smaller and the stools were fecal in character. Then the tumor appeared to enlarge and to ascend into the transverse colon, going as far as the sigmoid flexure, where it would lodge. At times there would be severe pain, and at times none. The stools being soft and feculent, with no blood or slime, still put us off our guard. At one time the tumor was four inches long, while at others it was very small. It also appeared to change its position, so much so that we were led to discuss the possibility of a tumor with a long pedicle, or a floating kidney. Besides this, the tumor was of two parts, with a distinct sulcus between them. On questioning the mother, we found that the child had eaten prunes, swallowing seeds and all. These seeds, we thought, might form a beginning for the tumor, and the fecal stools could then be accounted for by the openings between the stones allowing of their passage. The pain also could be accounted for by the sharp points of the seeds bruising the bowel. Acting on this idea, we inserted the rectal tube so much and sarcastically written about, and succeeded in filling the bowel. This had the effect of bringing away hard, black lumps, as the mother described them, and also a ring which she assured us was of fecal matter. After this the tumor appeared smaller, and a second washing out had much the same effect. Shortly after this, a quantity of pus was discharged, after which the child appeared easier. The tumor appeared the same as before, but the pain was not as great, in fact the child was very comfortable, with stools as before; no straining or vomiting. A solution of morphia gr. i. to aqua menth. pip. $\frac{3}{4}$ i. was left to be given as needed, but very little of it was used. The patient was eating fairly well, and was on hydroleine as well, when whooping-cough set in. Still he appeared to be doing well, but coughed very hard. After a very severe spasm, he sat up and said he felt weak, then fell back dead, having had hardly any pain for some days.

About eight hours after death, a post-mortem examination was made by Dr. Jenkins and myself. The tumor, as felt through the abdominal walls, was long, reaching entirely across the abdomen in the region of the transverse colon; abdominal wall flat, never had been tympanitic. On examination of the intestines, they were found to be somewhat injected, especially the transverse colon, which was also covered with newly-formed lymph. It was also felt to be remarkably thickened, giving one the idea of a large sausage. Following the tumor over to the right, we found a portion of the ileum extending into a sulcus in the tumor immediately under the liver. Then we knew that we had to deal with an intussusception. We removed the specimen, and after washing, split it longitudinally. The walls of the transverse colon were much thickened, and the cecum was lying in the first curve of the sigmoid flexure. It was gangrenous, as were the

parts around. The ileo-cecal valve was patulous, and where the vermiform appendix had probably been, was an ulceration extending clear through the bowel, so large that at the first glance it was taken to be the valve itself. No adhesions had formed at any point, and no peritonitis was present. No other portions were examined.

A post-mortem diagnosis is easy, but looking back over this case with its history, I am unable to see anything that I could have put my hands on, and said this is conclusive and the case is clear. In Smith, Steiner, and Pepper's System the symptoms laid down are much the same. In all of them the vomiting and constipation, with straining, and perhaps passage of blood are relied on for a diagnosis. In this case we had none of these symptoms; on the contrary, there was a surprising regularity in all the bodily functions. In no case that I have found, was there a history of a tumor that disappeared on the passage of articles as large as pieces of banana, but reappeared on ingestion of pieces as nearly conforming in size to the original cause as this. Neither is there any history of a case of intussusception developing as slowly as did this. Smith speaks of cases remaining pervious, and finally dying of exhaustion; this was evidently one of that kind. This perviousness is explained, I think, by the position of the ileo-cecal valve, being, as it was, nearly at the apex of the cone formed by the inverted cecum. The question naturally arises, whether, if the case had been understood in the start, it could have been successfully treated, and whether an operation at the last stage would have been of any use. We were of the opinion that, had the whooping-cough not come in as a complicating factor, the child would have recovered. Judging from the lack of adhesions after so long sickness, we were not far wrong. We were deprived of the diagnostic benefit derived from the tumor felt in the rectum or extending beyond it, probably by the fact that the cecum was too large to pass the sigmoid flexure. I should say, however, that the tumor, as felt by the hand ante mortem, was never so far over as it was found post mortem, due probably to the tumor having been forced over by spasmodic action of the diaphragm during the attacks of pertussis. The question as to what might have been done if the true nature of the case had been early discovered, and how much the intercurrent pertussis would have affected the result, had any been obtained, I must leave undecided. In a similar case, how-

ever, should one occur, I almost believe I would risk treatment by Dr. Forest's method, even though I could not make a clear diagnosis.

CASE II.—July 14th, in the evening, we were called to see C. S., æt. 3, female. The mother informed us that for ten days the baby had been suffering intensely, and that the physician who had been in attendance had been unable to give any relief. There had been some diarrhea, but most of each passage was mucus, with a little blood, accompanied by great tenesmus. The bowel also had been noticed to protrude during the attempts at stool, from one-half inch to one inch, for the last three days. The patient was rapidly emaciating. The diagnosis being plain, the child was given a prescription of tr. opii camph. with pot. brom., to take until seen the next morning. In the morning, the mother stated that the symptoms had increased in severity. We had made the apparatus described by Dr. Forest, except that we had used a tube about five feet long. At the time the rectal part was inserted in the bowel the child was suffering intense pain. On account of length of duration of the disease, we thought it best to use a great deal of caution in the reduction of the tumor. On this account, and also on account of the great pain occasioned, the operation was a slow one, but at its conclusion the patient was calm and wanted to go to sleep. Our only instructions were to keep the child on her back, in this way hoping to avoid straining. On the morning of the next day the child was to all appearance well, but in the afternoon we were called again. On account of difficulty in finding a vaginal syringe small enough to enter the bowel easily, and yet strong enough to stand the pressure of the gas, we made use of the rectal tube, and were gratified at the ease with which it entered the rectum. The tumor was easily reduced, and after giving a sedative mixture we left orders to call us should anything untoward happen. Investigation soon after showed no return of trouble, and September 6th I heard from the case and it remains perfectly well.

CASE III.—C. M., æt. 6, female. The father of this patient was sent to us on Thursday, August 2d. He reported a condition similar to the last one, except that it had existed but about one day, the straining, mucous and bloody stools and intense agony, all being present. To quiet the child, pulv. Doveri, gr. ij. each hour, was given till the case could be seen. The symptoms increased in severity, and at our visit, about 3:30, the suffering was intense. The bowel had not protruded, but on deep palpation a tumor was felt in the descending colon. The apparatus was used, and in a very short time the symptoms disappeared.

The night, however, was a sleepless and painful one, and by morning the symptoms had returned. The operation was repeated with success, and morph. sulph., gr. ij., ad aq. menth. pip., \bar{z} ij., was left, to be given as needed, which proved to be each hour. On Saturday the operation was repeated twice, and

on Sunday once, the pain always returning in a short time. On Sunday evening, the child was comatose and cold, with all the signs of approaching death. A mixture of spts. ammon. arom., digitalis, etc., was given; whiskey, hot bottles, etc., were also ordered. At midnight, however, it was evident that a change was taking place, and by 6 A.M. the change was confirmed, the patient going rapidly on to recovery. When last seen, August 18th, the child was recovering nicely, and when last heard from, September 6th, no return had been experienced; the child was reported well.

This case also furnishes food for reflection. If, as reported, the case was of only one day's duration, why should we have the symptoms of collapse? Either the case must have lasted so long that ulcers formed naturally, or else the constriction of the mass was so great as to form gangrenous ulcers. The only history we could gain on this point was that the child had seemed to be uneasy for some days previous to the more aggravated symptoms. Whatever the cause may be, the difference between these cases is remarkable; the one which had been under treatment for ten days yielding without special trouble and the use of but one siphon, while the other, of but one day's duration, required three siphons and careful watching.

Prof. Ashhurst, in his article in the *Am. Jour. Med. Sciences*, July, 1874, on laparotomy for intussusception, tells us of the high mortality (86%, according to Leichtenstern) of this accident, and also of the percentage of deaths in laparotomy when performed for its cure. We ought to hail with joy any invention which will aid us in reducing the chances of accident, and hence the necessity of resorting to operation. Dr. Illoway, in the same journal, January, 1886, tells us of his force pump. It was a step upwards, but this apparatus of Dr. Forest, it seems to me, is still another step onward and upward, because it has the advantage of being easily procured, easily managed, of great or little force as required, very portable, and is also cheap, requiring but a little outlay and time to make it.

My changes in the apparatus may be unimportant, but they seemed to assist in results.

1st. The rectal tube being smaller, and yet very strong, is more adapted to the child's rectum, the vaginal syringe being so large is apt to occasion some pain, remaining, perhaps, af-

ter the main trouble has passed away. The tube is to be wrapped in the same manner as the syringe.

2d. The longer tube; this I think is an advantage in that it allows the operator to be farther away from the patient than he otherwise could, and, as two are necessary to operate the apparatus successfully, the advantage is evident.

If the operation is begun slowly, the chances of success are better.

Of course, two cases are but little to boast of, but those two were, it seems to me, snatched from death, for which the instrument mentioned above deserves the praise.

Anesthesia is not necessary, but a sedative mixture after the operation is important.

These suggestions are offered, not in a spirit of criticism, but in accordance with the motto we all have in common: onward and upward.

CORRESPONDENCE.

THE DIAGNOSIS OF DISEASE OF THE UTERINE APPENDAGES AND THE INDICATIONS FOR "TAIT'S OPERATION."

TO THE EDITOR OF THE AMERICAN JOURNAL OF OBSTETRICS.

I AM much flattered by the remarks concerning myself and my work by my friend, Dr. Mundé, in the September number of the JOURNAL OF OBSTETRICS, but I trust he will forgive me if I put on record a gentle protest against one sentence in the paper, to the effect that "he appears to pride himself on not attempting to make the diagnosis with accuracy in those cases which call for removal of the uterine appendages, the so-called 'Tait's operation,' except through the abdominal incision."

I know not what in my appearance or my words could have sent Dr. Mundé off with a belief that I have any such pride. I have, on the contrary, a feeling of deep humiliation when I have to confess that I cannot diagnose the condition with accuracy before the exploratory incision, but this humiliation is tempered with comfort when I hear of the results obtained by those who pretend to perfect accuracy in pelvic diagnosis.

Had I known that Dr. Mundé was about to favor his readers with an account of what he saw, I should have taken care to supply him with full details, for without them I am sure his "Case XXIII." will be misunderstood and misapplied. The patient was 29 years of age, and was sent to me by Dr. Lidiard, of Hull, with the following history: She was single and had suffered from severe and constant pain in the uterine and ovarian regions ever since the commencement of menstruation, when she was fifteen years of age. When first examined nine months before, the uterus was found to be acutely retroverted; efforts were made to remedy this by extra- and intra-uterine pessaries, but they not only completely failed, but they made her worse. She was sent by Dr. Lidiard to a Women's Hospital, in London, where it is stated a small intrauterine tumor, about the size of a large currant, was removed, and she was again treated by pessaries, but was utterly unable to endure them. The patient was then sent to a Convalescent Home at Brighton, and returned after a time to Hull, worse than she had ever been. In his letter to me, Dr. Lidiard said, "She is prepared to have anything done that you like, since she is quite unable to earn her own living, being a dressmaker, and has no comfort in life. If you think it is a case you can do anything for, I should feel very happy to place her under your care." I saw her for the first time on July 14th, and I found that her menstruation was every three weeks; that it lasted for five or six days very profusely, with intense pain lasting all the time, from which pain she was never free, and that the pain was at its greatest intensity during the two or three days anticipating the period. The uterus was completely retroverted and there fixed. As this girl had to earn her living, it was perfectly clear that nothing but removal of the uterine appendages would benefit her, and this I did. I found the contents of the pelvis matted together, and the appendages were removed with very great difficulty, both tubes and ovaries being densely adherent, but on their removal, of course, they did not present any trace of these adhesions until they were placed in water, and I presume Dr. Mundé did not see them so placed. The patient went home early in August, and up to the present time she has had no return of pain or menstruation. She wrote to me to say that she is steadily improving in health and trusts that, if she goes on as she is now doing, she will be quite strong, and this, I believe, she will be in another two or three months. I am, etc.,

LAWSON TAIT.

BIRMINGHAM, Oct., 1886.

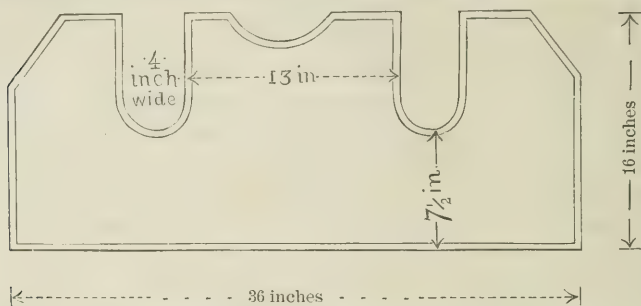
TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF NEW YORK.

Stated Meeting, October 5th, 1886.

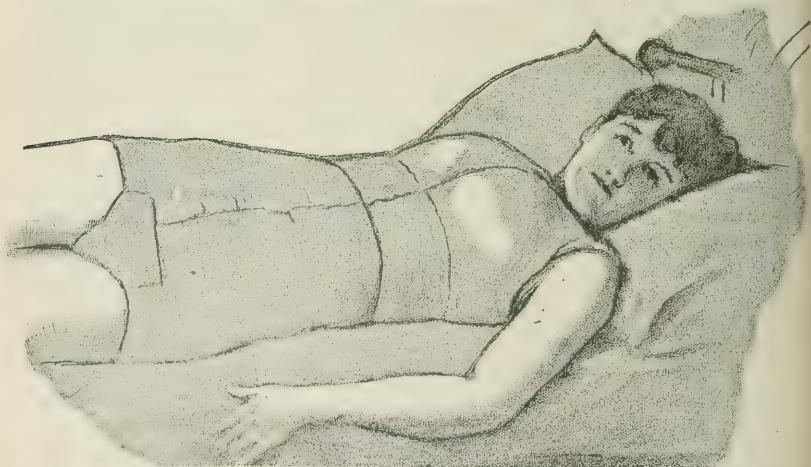
The President, DR. PAUL F. MUNDÉ, in the Chair.

APPLIANCES FOR THE SUPPORT OF THE FEMALE BREAST DURING LACTATION.

DR. PARTRIDGE exhibited two forms of bandage, the aim of which was to give support to the breast during lactation. Both were rendered especially desirable on account of simplicity and the lack of exposure of patient in their application, such as attends the use



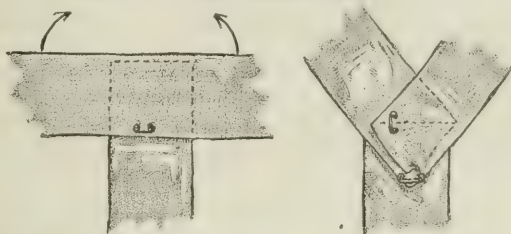
of strips of adhesive plaster or the roller bandage. The first is in use at the Maternity Hospital with the very best results.¹ It con-



sists of a waist cut to fit over the thorax and under the axillæ, being pinned down the front, and then over the shoulders. A

¹ For a more extended description of this bandage see Appendix to Cazeaux and Tarnier's "Obstetrics," 8th edit., page 1,077.

waist of the shape and dimensions shown in the drawing will fit the great majority of women. The amount of overlapping in the median line and on top of the shoulders can be varied so that it will fit either a stout or a thin woman, and it affords a perfectly even support to the breasts. A second advantage is that regularity of nursing is promoted, as the trouble of unpinning and repinning is enough to make the wearer delay a little, rather than put the infant to the breast whenever it cries. At the hospital it is the custom to apply this binder immediately after delivery, and it is worn for fully two weeks.



Under its use, the slight amount of mammary disturbance met with is surprising. The second, or Y-bandage, is described in "Monthly Nursing" by Dr. A. Worcester, and constitutes an admirable means of support whether the patient is lying or standing. Straps over the shoulder assist in keeping it in place if the patient is moving about. Two or three linked safety pins will nicely approximate the bandage between the breasts. The best use to which this bandage can be put is to hold up a pendulous breast.



DR. FOWLER asked if the first bandage described was not also abdominal, and if the present fashionable Jersey garment would not answer a similar purpose as regards the breast?

DR. PARTRIDGE stated that in the photograph two bandages were represented, the one abdominal and the other mammary, and that he thought the Jersey would prove too elastic.

DR. HANKS thought that the first bandage described should be recommended on account of its simplicity.

THE PRESIDENT inquired if the object of this bandage was purely to support the breast, or if it was also applicable to cases of mastitis. He stated that he had recently received a letter from a gentleman from the West in which a similar binder was de-

scribed for use in the prevention of lactation, and that he had informed him that the idea was by no means new.

DR. PARTRIDGE replied that the main object of the binder was to give equable support to the breasts, and thus to prevent mastitis. In his experience at the Maternity, during a number of years, he could recall but one case of mastitis, and this fact spoke strongly for the use of the binder.

CASE OF PROLIFERATING OVARIAN CYST.

DR. HANKS reported a case of this nature, in which he had operated successfully about three weeks previously. He had been called to Greenwich, Conn., to see a farmer's wife suffering from an abdominal tumor. On reaching her, as no preparations had been made for ovariectomy, he tapped to relieve the abdominal distention. Four days after he was telegraphed for, and found the patient rapidly failing. He at once exposed the cyst through a three-inch incision, and found the angry look suggestive of malignant disease. The adhesions were numerous, and the cyst-wall extremely friable. The pedicle arose from the left ovary, and was as thick as the little finger. The solid matter of the tumor weighed fully ten pounds. The patient made an uninterrupted recovery, and the case was related principally to prove what might be done under discouraging circumstances, in the absence of trained assistants and nurse.

DR. JANVRIN inquired if the cyst contained colloid material, and as to how long it had been developing.

DR. HANKS replied that there was no colloid material, and that the cyst had been growing for about three months.

THE PRESIDENT stated that it had been his misfortune to see a number of cases similar to the one just related, and that, since his own cases had terminated fatally, he would congratulate Dr. Hanks on his result. A few years previously, he had had a case in New Hampshire, where before operation the suspicion was that one of the two cysts present had ruptured. The patient's condition was very low, and he operated unwillingly, finding two tumors excessively rotten. This patient did not rally from the operation. Glandular proliferating cysts he considered papillomata, and although in appearance malignant, they were in reality not so. He inquired how long the operation lasted in Dr. Hanks' case. [When informed that the duration was fifty minutes, he said he considered Dr. Hanks fortunate in having been enabled to complete the operation in so short a time.]

DR. JANVRIN stated that Dr. Hanks' case must be considered an instance of friability of the cyst, the result of very rapid growth.

DR. PARTRIDGE inquired if nowadays the length of the abdominal incision was deemed of such importance as Spencer Wells had formerly claimed.

THE PRESIDENT stated that the incision must be made to fit the case.

DR. HANKS believed that the majority of operators preferred the short incision.

DR. WYLIE agreed with the President, and stated that the incision should always be sufficient to allow of easy extraction of the cyst.

THE PRESIDENT said that in Schröder's and Martin's clinics long incisions were made with impunity. For intra-pelvic tumors he believed that the deep incision, down to the symphysis, was to be preferred. It was to be remembered, however, that Tait was in the habit of operating through very short incisions. Personally he was in the habit of beginning with a short incision, and enlarging it to suit the necessities of the case.

DR. WYLIE believed that the lower the cut the greater the liability to ventral hernia, particularly where the drainage-tube was used.

DR. JANVRIN inquired if ventral hernia was of frequent occurrence. He had seen only a few cases in his life, and in two of these the drainage-tube had not been used, and the hernia was high up. It was his belief that to-day most surgeons made a short incision in order mainly to lessen the chance of septic infection at the line of incision.

DR. WYLIE said that, in his experience, hernia at the line of abdominal incision was not so very rare. Surgeons, however, differed widely in their practice, and Hegar had told him during the past summer that he considered it a mistake to make a short incision.

THE PRESIDENT remarked that, in regard to the length of incision, the Germans, in their preference for the long, differed from both the English and American operators.

TRANSIENT ELEVATIONS OF TEMPERATURE AFTER DELIVERY, AND THE INDICATIONS FOR A RESORT TO THE INTRAUTERINE DOUCHE.

DR. HANKS opened the discussion on the above topic by considering, in particular, the influence of the malarial element in the puerperal state. He considered it very difficult to tell, within the first twelve hours after delivery, whether a rise of temperature was due to septic or malarial influence. If on careful examination of the genital tract, he found a laceration of the cervix or perineum, or an edematous state of the vagina around the cervix, he was inclined to attribute the rise of temperature to the absorption of septic matter. In case the uterus was large, and the lochia fetid, he resorted to the douche. To exemplify the difficulty in the way of diagnosis, he related a case where the rise and fall of temperature were extreme and rapid for days in succession, and where, although everything pointed to malarial infection, he had not been able to divest his mind of the thought that the cause was septic phlebitis, resulting from a hypodermic injection.

DR. RODENSTEIN stated that he saw a great deal of malaria after confinement. A chill coming on suddenly and followed by sweating was apt to mean malaria. A strong point in differential diagnosis he considered to be the state of the external os. In sepsis, he had noticed that the os was always patent, in malaria, usually closed.

DR. FOSTER inquired as to the number of exacerbations of temperature, in the case reported by Dr. Hanks; and DR. HARRISON asked in regard to the condition of the uterus.

DR. HANKS, in reply, stated that for many days the temperature

would range to 104° or 106°, and then suddenly drop; that there was nothing about the uterus to suggest sepsis.

DR. MORRILL suggested that the element of periodicity would assist largely in differential diagnosis.

DR. PARTRIDGE stated that it was frequently difficult to differentiate to perfect satisfaction. We should ever reach our diagnosis by means of careful exclusion. The pelvic organs should be carefully and thoroughly examined, not alone once, but repeatedly, for frequently the second or third examination would reveal a cause not appreciable on the first. If, finally, he could find no cause for sepsis, he then concluded he was dealing with malaria. When we remembered how much constitutional disturbance might result from a simple abrasion on the surgeon's finger, it was amply evident how a slight lesion of the cervix, for instance, might be overlooked, and yet be at the bottom of septic infection.

DR. MURRAY had never seen a case in which careful examination would not reveal some cause for the elevation of temperature, aside from malaria. He pleaded for careful examination of the genitals, both external and internal, and recalled the fact that a patient might have a large plastic exudation without much febrile disturbance, and yet this be entirely overlooked if a vaginal examination was not made. He had noticed the fact that in every case of sepsis the external os was patent, but he believed that the prime differential point between malaria and sepsis lay in the fact that in the latter there was never complete remission in the temperature, and that generally there were two exacerbations daily. The constitutional depression also was greater in sepsis than in malaria.

DR. FOWLER called attention to the examination of the blood as a means of differentiating the two affections. He had several times thus found the micro-organisms of malaria.

THE PRESIDENT stated that it was his habit to assume rise of temperature after delivery as probably due to septic absorption. A very careful examination is often necessary to reveal the lesion. Patency of the external os to him signified something within the uterus, remnant of placenta, or decomposed clot. He had recently seen a case in a pronounced malarial neighborhood, where the attending physician was convinced he was dealing with malaria. The patient's temperature was 104°, the pulse 130, the facies bad, the lochia very offensive, the uterus large, the os admitting three fingers. With his long curette he had removed a mass of offensive blood clot at the placental site, washed out the uterus, and given antipyrine and applied the ice-coil. The temperature was lowered, but for three days there had since occurred chills and rise in temperature, which he was now inclined to believe were due to malaria. Malaria, he was well aware, was a hobby with some gentlemen, as was evident in a case he had recorded a few years ago, where one of his consultants clung to the diagnosis of malaria in the face of a metastatic abscess on the wrist. This case he had considered pure septic pyemia. He was convinced that periuterine exudations were often overlooked, for the simple reason that careful vaginal examinations were not resorted to. These were, of course, the very cases where intrauterine irrigations would be productive of harm instead of good.

DR. HANKS stated that he doubted if a woman could have a chill and fever during puerperium which was not dependent on a septic element.

DR. WYLIE inquired how often the douche was used in the case the President had just reported?

THE PRESIDENT replied that the indication for repeating the douche was the rise of temperature.

DR. WYLIE believed that the general condition of the patient would guide us largely in our diagnosis. He was in favor of washing out the uterus every hour as long as there was high temperature, and he cited in support of this opinion the results he had obtained at Bellevue, and which he had later reported in the *New York Medical Journal*.

THE PRESIDENT differed in this regard from Dr. Wylie, and was sorry the discussion had not turned more particularly on intra-uterine douching, for he believed that the members of the Society generally would take exception to such frequent douching. He had certainly seen harm result from too frequent douching. He could recall at the time three cases where violent chills had followed the douche, and these chills he considered the result of the manipulations. To DR. MURRAY's question as to whether it was not the experience of the President that the temperature rose a trifle, immediately after the douche, the latter replied in the affirmative, and stated that he did not look for an immediate fall of temperature. After all, intrauterine douching—as regards frequency—called for the exercise of common sense.

TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF PHILADELPHIA.

Thursday, June 3d, 1886.

The President, B. F. BAER, M.D., in the Chair.

DR. R. P. HARRIS read for DR. HOWARD A. KELLY, then in Europe, a paper entitled

GONORRHEAL TUBO-OVARIAN ABSCESS—RIGHT SIDE; LAPAROTOMY;
REMOVAL OF FALLOPIAN TUBE AND OVARY; RECOVERY,

of which the following is an abstract:

In this case the disease of the woman could be directly traced to gonorrheal infection on the part of the husband, although she had never, to her knowledge, had any uterine discharge other than blood, and had always been regular in her menses during the three years of her married life.

At 14, Mrs. H. commenced to menstruate; at 17 she weighed 135 pounds, although of medium stature, after which she failed somewhat in health from an abscess of a finger, and when married at 20 was quite spare, as was also her husband, both of whom are of German blood. The husband has since reached a maximum of 167 pounds. Three years before marriage, Mr. H. contracted

a gonorrhea, of which he thought himself cured in three weeks. At the time of his wedding, however, he was suffering from orchitis, which he attributed to a strain, and which lasted for some time. The sickness of his wife commenced with her first menstrual epoch, two weeks after marriage, at which time she had excessive abdominal pains, fever, vomiting, and constipation, and was two weeks in bed: since which time she has had repeated attacks of the same kind.

She came under the care of Dr. Kelly on March 31st, 1886, after having been under treatment for a supposed uterine fibroid during five months. After a month's preparation by enemata, vaginal douches, and tonics, it was determined to operate upon her for the removal of a tumor located between the right side of the uterus and the pelvis, and evidently firmly attached in its seat. This tumor had an elastic feel: had greatly affected the health of the patient by the production of menstrual prolongation and excess, and was evidently giving rise to symptoms of septicemia.

The tumor was removed May 5th, 1886, and in separating it from its bed a small cyst containing fetid pus was ruptured: this necessitated irrigation and cleansing of the viscera with hot distilled water to avoid septic peritonitis. The pulse rose to 160 the next day, but fell in four days to 76, with a temperature of 98.8°. When examined after removal, the tumor, which was about two and one-half inches in diameter, was found to consist of an ovary and dilated Fallopian tube, forming a common cavity, filled with from two to three ounces of thin, greenish, highly fetid pus.

A drainage tube was used for four days, the sutures removed in a week, the patient made a good recovery.

OVARIAN TUMOR.

DR. T. M. DRYSDALE exhibited the specimen, and remarked:

Five weeks ago I removed an ovarian tumor which, apart from the interest which attaches to each case of this kind, was personally important to me from the fact that it completed my one hundred and fiftieth ovariectomy. Twenty-five years since, April 23d, 1861, I performed my first operation of this kind. At that time, as you are aware, the procedure was not in such favor in the profession as it now is, and the operators were few. In fact, I believe I was the first after the late Dr. Washington L. Atlee, who operated in this city.

My success has been encouraging. In each series of fifty, the mortality has grown less, and the results more and more satisfactory, but, as I expect to present a report of the whole number of cases to you in a short time, I will not now anticipate what will then be stated in regard to these results, further than to say that of the one hundred and fifty cases I have lost twenty.

This tumor was removed from an unmarried lady, 20 years of age, who first consulted me in February, for an abdominal en-

largement. She was extremely thin and delicate-looking, but said she had enjoyed good health until attacked by the present disease: since then she had emaciated rapidly, her general health had failed, her stomach had become irritable, and her appetite deficient. She had an unnaturally red tongue and a feeble pulse, which varied from 110 to 140 beats in a minute.

She first menstruated when sixteen years of age, with great pain and excessive flow. Since then she had always suffered agonizing pain during menstruation, but had been regular until within the last six months: during this time she changed every two weeks, flowing for two or three days. For the last month she had a thin, sanguineous discharge every week.

She first noticed enlargement about eighteen months before I saw her. The whole abdomen swelled as if distended with wind, for which it was mistaken, her physicians treating her for a long time for dyspepsia. The increase in size had been very rapid in the last six months. On examination, the abdomen was found to measure thirty-seven inches around its greatest circumference, and was distended by a tumor of irregular shape and consistence. There was dulness on percussion everywhere, except in the epigastric region, and over the right flank. No fluctuation could be detected except over a small portion in the left side, about the level of the umbilicus, which was evidently cystic. A hard mass could be felt just below this, which appeared like an independent growth. On vaginal examination, the cervix uteri was found to be small and flattened against the pubic bone by a hard tumor which nearly filled the pelvis. This mass was found to be continuous with that which was felt to the left of the umbilicus. It was impossible to pass a uterine sound.

I diagnosed a multilocular ovarian tumor. Assisted by my son, Drs. W. S. Stewart, John S. Stewart, and G. G. Chamberlain, of Middletown, Del., I operated April 28th. On opening the abdomen, the front of the tumor was seen to be covered by the right broad ligament, which was spread out to a great size and firmly adherent to it. The uterus was turned completely on its axis and fixed by adhesions to the left side of the growth. A large trocar was introduced, but no fluid could be obtained until a cyst was reached high up on the left side. The remainder of the mass was composed of minute cysts and a nearly solid portion, which was that felt in the pelvis and left side before the operation. An incision was made in the wall of the tumor and, introducing the hand, the interior was broken up as much as possible; yet it was difficult to reduce its size, and I was compelled to enlarge the abdominal incision to about eight inches in length before I could get the tumor through it. The adhesions to the broad ligament and uterus were then detached, as well as some omental adhesions; others to the wall of the right side of the pelvis still held firmly. These were finally broken down and the tumor, which proved to

be of the right ovary, withdrawn. The pedicle, which was very thick and vascular, was secured by ligatures. From the surface of the adhesions there was an active and persistent bleeding, which gave considerable trouble, but this was controlled without the use of ligatures, except two to vessels deep in the pelvis. After thoroughly cleansing the cavity of the abdomen and pelvis, the wound was closed with wire sutures; a compress of absorbent cotton and a flannel bandage completed the dressing. I will not weary you with the details of her progress toward recovery. The only unpleasant symptoms she had were vomiting and violent colicky pains, which lasted at intervals for two days. Her highest temperature in the axilla was $101\frac{1}{2}^{\circ}$. Her pulse varied from 100 to 128. She has entirely recovered, and is daily gaining strength.

Stated Meeting, September 2d, 1886.

The President, B. F. BAER, M.D., in the Chair.

INTUBATION OF THE LARYNX.

DR. E. E. MONTGOMERY exhibited a set of Dr. O'Dwyer's tubes, the gag, and the instruments for the insertion and removal of the tubes. He related the history of a case of laryngeal diphtheria, in which they were successfully used to relieve asphyxia. In consequence of an over-dose of stimulant, the tube was coughed out, and had to be replaced, as the child could not have breathed without it. The doctor contrasted the difficulties of tracheotomy with the comparative ease of introduction of the tubes, and called attention to the want of success attending the former operation, as parents will not give an early consent for its performance. He had performed eleven tracheotomies before he had a single successful case, and as his first intubation case has been a success, he feels strongly in favor of the new operation.

REMOVAL OF THE OVARIES FOR UTERINE FIBROID.

DR. M. PRICE.—The case is one of interstitial uterine fibroid; the uterus being about the size of one at the third month of pregnancy, irregular in outline and nodular, and pelvic-bound. The ovaries were displaced backward and incarcerated between the uterus and sacrum, making it difficult to remove them. The woman had been suffering four years, and a confirmed invalid during the last one, unable to do any work. Her marital relations had been suspended for over a year, owing to the sickening pain attending any attempt at sexual intercourse. She had to walk with great care, and lie on her stomach while resting or sleeping, to prevent a throbbing and sickening pain in the pelvis. A rather exceptional and interesting feature of the case was the absence of profuse and irregular bleeding. Her menses were irregular, scant, and pale. Her chief suffering was from engorgement of and pressure upon the ovaries. All kinds of treatment had

been persevered in for the last three years, and the patient grew worse. She demanded operative procedure for her relief, preferring the risk of death to her suffering. The ovaries were removed July 9th, 1886. They were hypertrophied. They were found low down behind the uterus. They contained numerous pus pockets. The tubes were enlarged, but did not contain pus. With the exception of a suture abscess she did perfectly well, and made a perfect recovery. She is now able to look after her domestic affairs, and is free from pelvic pain and soreness.

No examination of the condition of the uterus has been made since the operation.

TRANSACTIONS OF THE GYNECOLOGICAL SOCIETY OF CHICAGO.

Regular Meeting, Friday, July 16th, 1886.

The Vice-President, HENRY T. BYFORD, M.D., in the Chair.

DISCUSSION OF DR. F. E. WAXHAM'S PAPER ON OCCLUSION OF THE OS UTERI AS AN IMPEDIMENT TO LABOR, WITH A REPORT OF TWO CASES

(Read at the May meeting.)

DR. W. W. JAGGARD said: From the very clear description of Dr. Waxham's case, I infer the condition was that described by Nägele under the term *conglutinatio orificii*, an uncommon complication of labor, but seldom indicating incision. Usually, pressure of the finger is sufficient to open the os.

A more serious condition is that described by Schmitt, under the term *conglutinatio organica*. The cervical canal is obliterated to a variable extent. I had a case, illustrating this condition, under my observation in Professor Spaeth's wards during the winter of 1882. The lower half of the cervical canal was obliterated. Radial incisions were made around the os externum, and the canal was dilated with the index finger. Forceps were subsequently applied. The case was reported in the *Medical News*.

DR. JOHN BARTLETT said: I have nothing of interest to offer directly pertinent to the present discussion. But I have rather recently attended a case which I deem so nearly akin to those reported by Dr. Waxham as to justify me in mentioning it.

Mrs. Anderson, 37 years old, came under my notice about three years ago. Five years since, she felt a burning pain in the nose and about the womb. At the same time her menstruation increased in quantity until, in the course of a year, it became profuse. Because of these difficulties, she sought relief from a quack. For the purpose of removing a cancer, which this pretender diagnosed, a most violent caustic was put into the nostrils and applied to the womb. One year afterwards, the tissues injured by the corrosive had healed; a violent uterine pain remained, and the flow had again become excessive. She applied to Dr. A. R.

Jackson, who made an operation for the relief of the atresia vaginae which he found existing. Although the operation was thorough, contraction recurred; so that when she was admitted into the Woman's Hospital in 1883, her condition was probably about the same as it was prior to Dr. Jackson's treatment. Dr. Mary H. Thompson operated upon the patient, opening thoroughly to the *os uteri*. Contractions, however, very soon re-formed in the vagina; in October, 1885, her condition was serious. Her pulse was weak and frequent; neuralgic pains about the pelvis were nearly constant, and superadded to these older symptoms were those suggesting pregnancy. The uterus was enlarged, and menstruation had ceased for three months. Of her condition at that time, Dr. Thompson writes: "The vagina was closed more perfectly than before. Not an opening could be seen in the occluding disc, which was only one inch from the ostium vaginae. By examination through the rectum, it was ascertained that the uterus was enlarged, especially toward one side of the body." The distress of the patient, the apparently complete closure of the vagina, the non-appearance of the menses, and the peculiar enlargement of the womb suggested either retained menstrual blood or some form of pregnancy. After a consultation, Dr. Thompson proceeded to open up the canal—at the time supposed to be perfectly occluded—between the uterus and the vaginal cul-de-sac. In reality, a very small opening still existed; this was enlarged carefully by incision and distention until the *os uteri* was thought to be easily in communication with the remains of the vagina.

One month after the operation, I was called upon to visit the patient. On the preceding night, at a certain hour, most violent pains, as those of child-bearing, had come on, and had continued despite of anodynes for some five hours. The pains had now, at the same hour as the night before, returned with increased violence. Not to go into details, I will say that the symptoms pointed strongly to some form of pregnancy. In view of the serious character of the case, I called in consultation, on the next day, Dr. R. G. Bouge. We left the patient still in doubt as to her true condition. During the following night, I was again summoned; the exact resemblance of the pains to those of labor, and the now recognized hardening of the swelling above the pubes during these pains, made it quite certain that pregnancy existed, and that the contractions would finally lead to the extrusion of the fetus from its sac *per vias naturales*, or otherwise. Upon careful examination, the vagina was found to be shut off about one inch from the ostium by a hard, firm, and thick disc of cicatricial tissue. Toward one circumference the small opening detected and enlarged by Dr. Thompson a month before was recognized. By rectal examination, what seemed to be the cervix uteri was reached, three-quarters of an inch beyond the upper face of the cicatricial disc. Connecting the disc and cervix was apparently a tube of tissue much smaller in circumference and thinner than proper vaginal walls. The pains continuing with regularity, Dr. Bouge and myself concluded to assist delivery. Slight incisions by means of the bistoury were made in the circumference of the opening in the cicatricial disc, a metallic dilator was then introduced, and when some dilatation had been effected, a modified Barnes dilator of very small size was inserted. Within an hour, by the occasional use of the knife and the continual tension of dilators, the disc opening admitted for a little distance the end of

the finger into the remnant of the vaginal tube above the disc. By the point of the finger, pressed firmly onward, could now be recognized a hard body which was taken for the cervix uteri. With a little more dilatation of the disc opening, it was perceived that the hard body was the fetus, and that the os uteri was healthy and dilating in a normal manner, the membranes being unruptured. As soon as the opposing disc opening was expanded to a size presumed to be sufficient to permit of the passage of the head, the membranes were ruptured. It was then discovered that the shoulder presented; by aid of suitable instruments the child was turned and in the somewhat too vigorous efforts at delivery the body parted from the head, the latter remaining in utero. This accident in such a case, with an extra, entirely rigid os precluding free procedure through the os uteri, ordinarily would be regarded as unfortunate, I looked upon it as a favorable step toward delivery, confident that by means of a suitable vectis the head could easily be scooped through both of the opposing ora. In fact, the head was readily so delivered, and the placenta, falling over the os uteri, was removed with the same instrument. One of the symptoms that confused the diagnosis on the first day of the appearance of labor pains was the unusually large, rapidly attained size of the supra-pubic tumor. This symptom was now explained, for an examination to determine if the patient was entirely "cleared" revealed the presence of a second fetus presenting by the head. The vectis was applied and the fetus at once withdrawn, as was also in like manner the second placenta.

The labor revealed the true anatomy of the injured parts. The patient desired that the passage through the disc should be kept open, but inasmuch as the os uteri was almost immediately behind it, it was deemed useless and harmful to make the attempt. Within three months the dilated opening in the disc had contracted to a size but little greater than that observed before the miscarriage.

DR. F. E. WAXHAM said: I would simply allude to the great resemblance, in the case coming under my care, between the uterine tissue and the fetal membranes, especially in those cases in which there is but a small amount of amniotic fluid, and I can see how very easy it would be to do permanent injury to the mother by rupturing the uterine tissue by a pencil or some other sharp-pointed instrument, when, perhaps, by more extended and careful examination, it would be found that simple dilatation would be sufficient. In the case reported, the knowledge that the amniotic fluid had been escaping for several hours was sufficient evidence to me that there was an os, and it was also proof that the tissues presenting were not membranes, but the uterine tissue. But the great trouble was to discover the os, and I assure you it was difficult indeed. The os was present in the centre of the presenting mass, and yet we could not discover it. It was impossible for me to do so, and it was only after a continued, careful, and searching examination that Dr. Nelson was enabled to detect the very slight dimple which was present.

DISCUSSION OF DR. HENRY T. BYFORD'S PAPER, ENTITLED "A STUDY OF THE CAUSE AND TREATMENT OF PELVIC HEMATOCELES."¹

DR. T. D. FITCH said: I have had very limited experience with operative procedure in this class of cases. As a rule, I feel like

¹ See original article in this number.

praising the bridge that has carried me safely over. My usual treatment has been the expectant plan, or trusting to resorption of the clot. Resorption occurs in other tissues of the body, the leg or arm, where you would not think of opening the cavity and turning out the clot. It would be a very bad principle in surgery, I think. My experience has not been sufficient to condemn the operation entirely, but I feel like trusting to the safer plan of the expectant treatment. I have never operated in more than two or three cases, and would not have operated in them had not there been a mistake in diagnosis. One of these cases was a lady at Jefferson, who gave a history of cellulitis. There was softening and fluctuation in the tumor presenting. I was called in consultation by the attending physician. The symptoms were those of cellulitis, resulting in abscess. The aspirator was used and a very small amount of pus was drawn off, and then a larger amount of disintegrated blood. All was drawn off that could be, and the woman recovered, no bad results following the aspiration. No drainage was instituted, and no scooping out of the blood clot was performed; there was no special treatment except on general principles, and the vaginal injections of antiseptic fluids. The opening was not enlarged, the sac was not injected nor washed out. The opening made by the aspirator needle probably closed up so that no air was admitted, and no decomposition or blood-poisoning occurred.

Another case was one in which I assisted in an operation for supposed extrauterine pregnancy. Two distinguished Fellows of this Society were present and concurred in the diagnosis. It was decided to open the tumor through the vagina with a galvanocautery knife, and when this was opened, there poured out of it a gelatinous fluid, as white and as clear and pure as could be; it looked to me very much like soft boiled rice. It was a clear white, and perfectly inodorous. The sac was washed out with antiseptic fluids, and the patient treated on general principles; I think no drainage was used. The sac was not scooped out; nothing was turned out except the tablespoonful or two of gelatinous fluid of which I spoke.

Another case I might mention, in which the attending physician and myself (I was called in consultation) diagnosticated an abscess; opened it with the aspirator, and found that it was an hematocele. I believe the expectant plan of treatment is preferable to operative interference. I think a larger percentage of cases would recover under this treatment.

DR. JOHN BARTLETT said: I will take occasion to refer to a fatal accident that once came under my observation, which tends to show the necessity for the greatest care in opening cavities per vaginam, whether resulting from hematocele or cellulitis. A patient was greatly reduced by long-continued pelvic abscesses. It seemed to be one of those cases in which an operator is called upon to make a determined attempt to reach, evacuate, and curette a chain of abscesses found to exist within the pelvis. Several collections of matter were opened, and it was supposed that the object of the operative procedure had been happily accomplished. The final washing of the cavity with carbolyzed water was in progress when suddenly the patient fell into a profound collapse; respiration ceasing and pulsation at the wrist failing. This condition was regarded as an accident from ether. Every effort at restoration was unavailing till a faradic current was passed

through the phrenic nerves at proper respiratory intervals. The patient then gradually rallied, and the danger was thought to have ceased. On the following morning, the carbolyzed injection was repeated by an assistant; a fatal collapse immediately ensued. Post-mortem examination revealed a small opening through the roof of the pelvis, and the presence in the peritoneal cavity of the injected fluid. If the Society will pardon a digression, before closing I will take occasion to refer to a symptom of hematocele which would seem to be as rare as it is suggestive. In one case, associated with this condition I observed the whole surface of the abdomen below the navel to present an ecchymotic appearance as from the extravasation of blood after an injury. The patient was alarmed at the "black and blue" appearance, regarding it as a sign of "mortification." It existed for weeks and disappeared, *pari passu*, with the pelvic extravasation.

DR. W. W. JAGGARD thought the ruptured cyst of extrauterine pregnancy a more frequent cause of retro-uterine hematocele than the text-books would lead one to believe. Gallard has emphasized the importance of the operation of this etiological factor. He makes a statement to the effect that, independently of traumatism, almost all hematoceles are caused by the ruptured cyst of extrauterine pregnancy. Such a broad statement naturally provoked salutary criticism. More recently, Veit,* of Berlin, has collected one hundred and forty-six cases of hematocele, of which forty cases, or twenty-eight per centum, were probably due to the ruptured cyst of ectopic gestation. Veit's estimate does not appear extravagant.

He would like to inquire of the author of the paper, what was the indication, in the case reported, for operative interference? The indication had probably been stated, but, through inattention, he did not remember it. A small non-suppurating, retro-uterine hematocele of six months' standing was not, *per se*, an indication for any operative interference.

Any discussion of the surgical treatment of retro-uterine hematoceles would be incomplete without some mention of Dr. A. Martin's plan of treatment in cases of extra-peritoneal hematomata. Laparotomy is performed, eventration of the intestines effected, the sac incised, evacuated and curetted, and subsequently united by sutures, drainage is maintained *per vaginam*. In Martin's hands, this operation has been perfectly successful in six cases.

DR. C. T. PARKES said: I do not think I have anything new to offer on the question of treatment of hematocele. My experience embraces only three cases. The first was a lady whom Dr. Fitch saw with me about a week after the initial symptoms, which present themselves in these troubles, had appeared, and we concluded to make an opening through the cul-de-sac of Douglas. I used the Paquelin cautery for the purpose of opening up the mass, which was not very extensive. The principal symptom which led us to think it was necessary to resort to interference was the evidence of the presence of probable suppuration. The lady had been having slight chills and some corresponding rise of temperature, and we thought it best to be certain whether or no the mass had decomposed and broken down, so we opened it with the cautery, and quite a quantity of grumous, broken-down blood with clots came

* "Leçons Cliniques des Maladies des Femmes," Paris, 1873, p. 635.

** "Die Eileiterschwangerschaft," Stuttgart, 1884, p. 14.

out. The lady was relieved of her pain and distress. We introduced a drainage tube, and through this tube passed a large catheter as long as the opening would permit, and washed out the cavity every day and followed it up for a long while, with a diminution in the size of the mass, until it got so that it was merely perceptible above the pubes, then the chills came on again more severely, and after suffering for a month or six weeks she finally died of septicemia. In that case I was satisfied, from the fact of being able to fill the cavity apparently, under the force of hydrostatic pressure, and then have something give way, and the fluid rapidly disappear, that we had a series of cavities which were opening into each other. I think if I had such a case to manage now, I should do differently. I should use thorough antiseptic precautions and care at present; such treatment was not then deemed necessary. The next case, a very interesting one, happened last winter; I saw the lady four or five weeks after she was taken ill. She was taken as though she were going to have a miscarriage after having missed menstruation twice, and when I saw her she was in an extreme condition of collapse; upon examining the abdomen, it was found full of something, dull on percussion, resonant above and to the sides; on digital examination the ordinary signs of hematocele were present. This woman was in such a weak condition that I could not bring myself to the idea of interfering, and tried to support her and wait for events. I attended her two weeks, while she varied from one condition to another, all the time life hanging by a thread. In the third week, on examining her abdomen, I thought I detected fluctuation, and in two or three days was certain of it. I aspirated in the linea alba, midway between umbilicus and pubes, and at first withdrew a quart of blood, but, although I was satisfied there was more there, I did not repeat the aspiration that day. Two days afterwards I aspirated again, and withdrew two quarts. She began to improve from that moment; I merely put her on tonics and supporting treatment; this was in February. I saw her about a month ago, and she was going about the house the same as any one else. The third case was a little later in the same year, a lady who had been bleeding a little for some time, with the presence of signs of conception of two months' date. I made an examination, and was satisfied that I detected to the right of the uterus a mass as large as one's fist, easily reached by manipulation internally and externally, tense to the touch, and elastic. I diagnosed a probable hematocele, kept her quietly in bed, but did nothing special for her. The occurrence of this tumor was accompanied by extreme shock, prostration, pallor of the body, and symptoms of collapse. She has now entirely recovered without any interference whatever. That last case led me to think of some of the reports I have read about surgeons being called to see a patient in collapse, finding she has flowed a little, with a history of probable pregnancy, making an examination, and discovering a little tumor, diagnosing extrauterine pregnancy, using electricity, and curing the patient. It seems to me there may be a possibility of there being a mistake in some of these cases of extrauterine pregnancy that are cured so readily by the use of electricity. They are becoming very frequent. I must say that it was a very difficult matter for me to decide, in this case, whether it was extrauterine fetation or hematocele, still I am satisfied that it was an hematocele.

DR. H. T. BYFORD said: Before closing the discussion, I would like to add the following case to the series reported in the paper:

Case VI.—Mary H., a German servant girl, 25 years old, was taken sick with pains about the lower abdomen, nine months ago. The attack, which came on after a menstrual period, kept her in bed little of the time, but did not pass off. In six weeks, her menses came on and lasted two weeks. The bleeding ceased for a few days, then returned and had continued, in varying quantity, until stopped by ergot about a week before I saw her. Vesical irritation was an almost constant symptom. Up to that time, she had tried to attend to her work, but then gave up her place. She told me, a little over a month ago, when I first saw her, that she had felt worse since taking the medicine. The great pelvic tenderness subsided rapidly under the "absolute rest" treatment, and in less than a week afterwards I was able, without paining her, to completely circumdigitate a large boggy or semi-elastic tumor in the right broad ligament, extending behind the uterus from a level with the internal os upwards, and reaching into the left broad ligament, where it felt harder and nodulated. The uterus was anteфлекed, displaced anteriorly and to the left (leaving only room enough between the cervix and the pubes for the index finger), and intimately attached to the surrounding mass. The probe entered three inches, turning forwards. After keeping off her feet, although not in bed, using hot douches, iodine applications to the abdomen, iron internally, and having glycerin plugs applied about every three days for three weeks, the tumor had become harder, somewhat nodulated in places, and perceptibly smaller. She had felt quite well again until the last few days, when she undertook to resume her domestic duties.

This case shows well the positive benefit of rest, and the positive harm that is sure to result from want of it. Its history is similar to the history of many such tumors which go on to suppuration, but which, with proper treatment, would have been promptly absorbed.

The unfortunate case related by Dr. Bartlett bears witness to the dangers of the curette in pelvic hematoceles, and is probably one among many somewhat similar ones that have not been reported. The necessity of a large opening, perfect drainage, and great antiseptic precaution is vividly shown by one of the cases recited by Dr. Parkes. His view as to the liability to the formation of pus pockets is corroborated by the sudden discharge of half an ounce or more of pus on March 26th, in the case of Mary St.—, followed by the rapid sinking of the uterus back into a natural position. This pus pocket, had the operation *not* been performed, would probably have formed and pointed upwards in the direction of the least resistance, and would have become an abdominal abscess, and a serious thing to manage. I quite agree with Dr. Parkes that simple hematoma and hematocele are too often thought to result from extrauterine pregnancy, and think it is partly the result of Gallard's theory that all non-traumatic cases are extrauterine pregnancies—a theory which has done its good and has had its days. The intensity and persistence of the local symptoms, the passage of the decidua, and the past or present characteristic symptoms of the pregnant condition should usually prevent such a mistake.

I think with Dr. Jaggard that Bandl would have us operate too early; I only claimed that Bandl's views were a great advance

in the therapeutics of pelvic effusions, in that, while recognizing the dangers of early interference, he does not allow the fear of inducing septicemia to intimidate him into waiting until septicemia has already accomplished its mischievous, and perhaps fatal work. The reason why Bandl's latest views have had so little apparent effect upon the profession is, that they have only been before the profession at large for a few months. I had come to the conclusion that, with our present knowledge of antiseptics, we need not be frightened out of opening up these accumulations, and had acted upon it before I knew of Bandl's views; and so had many others whose veneration for long-established authority had not overpowered their individual judgment.

A. Martin's method of operating for hematoceles and hematomata is *one* method, but that it is *the* method cannot be maintained upon scientific grounds so as to convince the profession; nor has it as yet been so proved by its success. As to the frequent bunglesomeness of operations per vaginam and per rectum, there is scarcely to be found an opportunity for the bungler like the performance of laparotomy for pelvic disease. I doubt if I exaggerate in saying that half of the abdominal sections are done in a bungling manner, especially when compared to those of Martin and a few others.

In my paper I advocate the expectant plan of treatment, and have used it, and so far succeeded with it, in all of this series of cases except one. That case was operated upon because the conditions for a cure without the operation were not attainable; because, even if attainable, they would have taken too much time to restore the patient to usefulness; and because, if properly done, the operation in such a case is almost devoid of danger. I regard it as a good illustration of when we may operate in case the expectant plan does not afford relief. In case VI., Mary H., which I have just reported, I shall use every effort to do without surgical interference, because the interior of the sac cannot be easily and safely reached.

Protheroe Smith, M.D., M.R.C.P., of London, was then elected Honorary Fellow of the Society.

Regular Meeting, Friday, August 20th, 1886.

The Vice-President, HENRY T. BYFORD, M.D., in the Chair.

DR. W. W. JAGGARD exhibited

AN OVUM CORRESPONDING TO THE FOURTEENTH WEEK OF PREGNANCY, SHOWING TWIN PREGNANCY, WITH ONE PLACENTA, ONE CHORION, ONE AMNION, BOTH EMBRYOS OF THE MALE SEX.

The interesting specimen was placed at his disposal through the courtesy of Dr. Daniel H. Williams, of Chicago. The egg corresponded to the fourteenth week of pregnancy. It was a case of twin pregnancy, with one placenta, one chorion, and one amnion. The embryos were equally well developed, and were of the male sex.

The case illustrated one of the modes of origin of multiple preg-

nancy. An ovum may have two nuclei, and an embryo may be produced from each nucleus. Under these conditions, the fecundated ovum has one placenta (or there is anastomotic communication between two fused placentaë), one chorion, and two amnions. The amniotic septum may be broken down or absorbed, and the embryos may be contained in a single amniotic sac, as in the specimen exhibited.

In a case of single placenta, or fused placentaë with anastomotic communication and a single chorion, the twins are always of the same sex (Hyrtl, Spaeth, Braun).

DR. JOHN BARTLETT read a paper, entitled

A PROPOSED MODIFICATION OF PORRO'S OPERATION.

After giving a concise history of the classical and Porro's operations, Dr. Bartlett said:

"The substitute for Porro's operation which I have to propose is as follows: The operation proceeds as in Cesarean section till the child is removed, the actual cautery being used in opening into the womb. Then, instead of dragging the womb out of the abdomen through the abdominal incision, it is dragged out of that cavity through the vagina. The operator passes a Wells' clamp, somewhat modified in its prehensile surfaces and properly curved in coincidence with the parturient canal, to the fundus of the uterus and there secures a firm grasp into the uterine tissues. By traction upon these forceps, and pressure, and suitable manipulation from above, the fundus of the uterus is depressed into the body of the organ, dragged through the cervix into the vagina to produce complete inversion. The clamping wire is immediately adjusted, and excision of the uterus and appendages effected at a suitable distance from the vaginal junction. The abdominal wound is closed, and attention is given to the stump with reference to hemorrhage as in Porro's operation. In lieu of the clamping forceps, in some cases it would answer better, doubtless, to pass a loop of copper wire through the walls of the uterus, to be caught upon a suitable instrument, as a rod possessing the flexibility of block tin or solder, passed *per vias naturales* to receive it. The advantages of this operation over Porro's method which suggest themselves are: *First*, that the abdominal cavity is thoroughly closed; the abdominal incision, not being embarrassed by the presence of the large pedicle, is as perfectly and as quickly closed as in any other laparotomy. By the process of inversion the pedicle is placed outside of the abdominal cavity, while what may be termed the uterine inlet made into the peritoneal sac is closed by the clamping wire opposing serous surface to serous surface, thus offering the best prospect for speedy and certain agglutination and closure. *Second*, the relation of the parts in the suggested procedure is much more natural, and much less strained than in the *status* in which Porro's method leaves them. *Third*,

in the event of drainage becoming necessary in the course of treatment, the effecting of an opening for a tube in the plan proposed can be accomplished very much more easily and safely than in Porro's plan, and the tube being introduced, its situation and direction would be the best possible for thorough cleansing of the cavity to be washed.

Serious objections at first thought will occur to the mind of every gynecologist. These will be here stated and subsequently met, as well as may be, by considerations that may be urged in answer to them.

First.—Of all the accidents *post partum*, none is generally accredited with so violent a shock to the patient as the very condition which is here made a main feature in a method proposed as conservative. In the old and in Porro's operation, it almost always happens that, either with or without the partial or complete separation of the placenta, the uterus contracts. With such a condition of the uterine walls, inversion would prove difficult and sometimes probably impracticable. Hunter said a contracted uterus was as difficult to invert as a jack-boot. When to these difficulties incident to the first step of the operation are added the shock from clamping and incising the uterus, it would seem that the dangers incident to the method proposed might exceed those of the Porro operation.

Second.—In Porro's operation, as in the old Cæsarean section, danger begins from hemorrhage at the moment of incising the uterus, and in the method proposed this danger would be so much the greater as the time elapsing between the two events, incision and snaring of the pedicle, is longer. In the established operations, in at least one-sixth of the cases the placenta has been encountered directly in the line of incision. In such instances the bleeding from the double wounds, uterine and placental, would, in an especial manner, embarrass the operator and endanger the patient.

Third.—It must be remembered that, in the great majority of cases in which the operations under consideration are undertaken there exist contractions of the pelvis which may seriously interfere with the main step of the operation, inversion of the uterus.

Fourth.—Apart from these more serious objections, it may be urged against the plan by inversion that dilatation of the *os uteri*, a *sine qua non* of the method proposed, does not always exist at the time of operation, and that it may not always, or even often, be practicable safely to effect it.

These objections will now be considered *seriatim*. As to the first, regarding the shock to the system so often reported in association with inversions, it may be stated that associated with inversion also is very generally hemorrhage, and to this all-powerful cause of depression may be ascribed much of the shock noticed in cases of inversion. While it must be admitted that in some instances inversion alone, entirely unassociated with bleeding,

seems to have produced great shock, and even death, it may yet have happened that, in some of these cases, other injuries, as laceration of the uterus accompanying the inversion, may have been partly responsible for the profound impression observed, and one is the more justified in assuming that this objection may be overestimated, from the fact that in a number of cases carefully observed and reported, inversion has produced no shock whatever, and has in fact been accomplished without the knowledge of either the patient or obstetrician.

Blundell, Dailliez, Dugé, Crosse, Lee, were quoted to support the proposition that shock *per se* is not the cause of alarming symptoms or death in inversion of the uterus.

By reference to veterinary surgery, cases may be adduced to show, not only that uterine inversion among animals is not *per se* especially dangerous, but that inversion, complicated with accidents in themselves accounted most dangerous, is not necessarily fatal. In such cases reposition alone, unaccompanied with any care for existing uterine lacerations, may be followed by perfect and speedy recovery. In support of this proposition, cases were cited from the writings of J. Rainard, Guillin, Gellé, Elevout.

As to the objection regarding the difficulty of inverting the uterus after contraction, it must be admitted that contraction of the uterus into a firm body would certainly render more difficult the inversion. The facility with which the flaccid uterus may fall into itself like tripe, or a wet bladder, or the finger of a glove, certainly contrasts strongly with the difficulties encountered by experts in restoring the inverted uterus, even as early as four hours after labor. In the absence of any experience in the matter of purposely inverting the uterus, it will be necessary in support of the practicability of this feature of the proposed operation to draw upon experience derived from practice in midwifery. A variety of facts may be brought to bear to show the likelihood of success in efforts at inversion which may be in a measure classified thus: direct facts as to the ease with which it has been accomplished directly after labor; facts showing the readiness with which from trifling causes inversion may be induced within a few weeks after labor; facts seeming to show that it may even occur in the virgin uterus, and apparently from minor causes. Replacement of the uterus after inversion, whether that organ be lax, moderately condensed, or in a state of complete involution, is an act so nearly akin to that of inversion that any facts tending to indicate the facility with which an inverted uterus may be restored to position have a bearing upon the question of the practicability of inverting the uterine tissue. Hence in the category of available facts for our present purpose belong those showing facility or possibility of reduction of the inverted womb at any stage or condition of inversion. Referring

to inversion, Barnes, Hunter, Byford, Gooch, Boivin, Dugé, Baudelocque, Radford, Cowan, J. Y. Simpson were quoted to prove (1) the ease with which inversion has been accomplished directly after labor, (2) the readiness with which, from trifling causes, inversion may be induced within a few weeks after labor, (3) that inversion of the uterus may even occur in the virgin uterus. Facts were adduced to prove the ease with which even the chronic inverted uterus was restored. Fraenkel's experiments with atropia, morphine, and chloroform in cases of spastic contraction of the uterus in the second or third stage of labor were suggestive.

This combination recommended by Dr. Fraenkel, injected into the *cervix uteri* at the proper moment before the operation might be relied upon to antagonize any excess of contraction of the uterus which experience might show to interfere with the efforts of the operator to invert the uterus.

In regard to the objections having reference to hemorrhage from the uterine incision, it will be observed that, in the plan proposed, the incision through the uterine walls is made with the cautery. While it is probable that the protecting power of this agent would guarantee the arrest of the bleeding from the uterine wound for a time under conditions of rest, it must be admitted that, in subjecting these seared edges to the changes of relation incident to the process of inversion, there would be danger of reopening the vessels and loss of blood. In such a case, the assistant managing the thermo-cautery would follow the edges of the wound with the purpose of retouching bleeding points when practicable. That the actual cautery will arrest the hemorrhage from the uterine wound, even under circumstances of change in its size, etc., the following facts prove.

R. W. Felkin, Breitmann, Playfair, Baudelocque, Edmunds, James Whitehead, Robert P. Harris, Fancourt Barnes were cited in support of the proposition that hemorrhage is rarely the cause of death.

In regard to the third objection, having reference to the narrowing of the pelvis, and the difficulties in the way of the suggested procedure thereby presented, it may be stated that, while narrowing of the pelvis would always prove more or less of a hindrance, yet it must be borne in mind that, in the majority of cases of deformed pelvis, however much any given diameter may be shortened, there yet remains space to one or the other side of the narrowing line through which the womb might be made to pass by the *vis a fronte et a tergo*. Generally in the process of inversion, as the uterus would be drawn through the superior strait, four thicknesses of the organ would be presented at the conjugate; and in cases of unusual narrowing, difficulty might be experienced in this manœuvre. In extreme contraction of the pelvis, dexterity and ingenuity on the part

of the operator might enable him to cause the organ to pass in the process of inversion a very narrow space, possibly no wider than twice the thickness of the uterine parietes. Thus by making the incision, where practicable, near the fundus, the fold formed by one lip of the wound and its apposed surface of uterine wall might be made to pass; to be followed by a similar fold of the corresponding edge of the incision.

Stein and Wiegand recommend that, after the operation of Cesarean section, if the uterus does not contract so as to sink into the pelvis, it shall be seized by the whole hand, as in taxis for hernia, and be pressed down into the pelvis. In a narrow brim, this procedure, they think, insures that the uterus once pressed into the pelvic cavity cannot rise out of it again. Spitzbarth makes a similar suggestion. These recommendations of practical men suggest the feasibility of inverting the uterus by adroit manipulation even in cases of marked contraction. It may as well be stated, however, that the plan of operation here proposed has its limits of practicability as compared with the Porro operation, cases of extreme pelvic obstruction, as well as those involving such changes in the parenchyma of the uterus as would render inversion dangerous, if not impracticable, would, of course, not fall in the category of those to which the method here suggested might be applicable.

In regard to the fourth objection, as to the hindrance presented by a non-dilated *os uteri*, it may be said that, according to the majority of authorities, the most favorable time for performing Cesarean section is after labor has set in, and should interference be delayed till the *os uteri* were softened and ripe for dilatation, in the greater number of cases the delay would not prove injurious to the mother or child.

With the present means of dilating the cervix during labor, it is to be presumed that, while an imperfectly dilated *os* would not infrequently prove a hindrance, it would not often be an obstacle in the way of the proposed operation.

Barnes, Thomas, and Lusk were cited to prove the ease with which the *cervix uteri* might be dilated.

It may be inquired, what would be the relation of the ovaries to the proposed line of ligature in an inverted womb? Several writers refer to the ovaries as resting on the edge of the inverted uterus as if about to fall into the cavity. A specimen from which this statement has been deduced forms the original of one of the standard cuts representing that condition. It is a case of partial, not of complete, inversion. Some authors, as Boivin and Dugé, state that the ovaries are not within the cavity of the uterus. Other writers, as Levret, report cases in which the ovaries were found within the inverted cavity. Schultze states that they are there found, and the cut that accompanies his text so shows these organs. In a number of instances, recent and old, the amputated

uterus has been found to contain one or both ovaries. In many cases of chronic inversion, the appendages have not been found within the cavity of inversion. A study of the relation of the ovaries after complete inversion of the uterus will lead to an indorsement of the statements of Winckel and Schroeder as correct. Winckel writes, "In puerperal inversion, as a rule, the tubes and ovaries fall into the cavity (of inversion)."

Says Schroeder: "In recent puerperal inversion, all of the appendages are in the uterine funnel."

In the records of medicine are not wanting quite a number of cases the history of which teaches that the plan of operation here proposed may not be fatal. Cases were cited from the work of Denucé on "Uterine Inversion" to prove the latter proposition.

In conclusion, Dr. Bartlett said: Mr. President, in the course of my researches in preparing this paper, I have looked expectingly for the presentation of the same proposition as I have here made from co-laborers in the field of obstetric surgery. I have been rather surprised to have met no allusion to the method. The germ of the plan here proposed may, however, be found in the writings of that brilliant obstetrician to whom, more than any other, suggestions for improvement in the operation of Cesarean section are to be credited, James Blundell. In his article on laceration of the uterus occur these words: "Would extirpation of the uterus, *with or without inversion*, be of service in these cases? This question may be answered next century."¹

DR. A. REEVES JACKSON said: I have never performed Porro's operation and am not sufficiently familiar with the literature of the subject to be a proper person to open or even take part in the discussion. I confess I scarcely understand what advantages this operation proposed by the essayist offers over the improved operation by Sänger. I would like to know whether Dr. Bartlett has performed this operation either upon the living subject or on the cadaver. It seems to me there are practical difficulties in the way. In a review by Harris, of Philadelphia, in the *American Journal of the Medical Sciences*, of the work of Mangiagalli, "On the More Recent Modifications of the Cesarean Section," it is stated that it had been proposed to invert the uterus; for the purpose, however, of lessening the danger from septic infection, and not to facilitate the amputation, as is designed by the suggestion of Dr. Bartlett.

¹ After writing this article, the writer found in the essay of Dr. Harris on the Porro operation in continental Europe, published in the *American Journal of the Medical Sciences*, in 1880, the following sentences:

"Several other plans [of treating the cervix] have been proposed. . . . (2) to invert the uterus after its evacuation, and constrict and remove it by the vagina. This plan tends to complicate the case and increase its dangers, etc."

Had the writer been aware that the suggestion which forms the basis of the foregoing paper had been previously published, he would not have prepared it. Inasmuch, however, as the merits of the method proposed are in no wise affected by its having been previously suggested, he has decided not to withhold the article from publication.

DR. E. J. DOERING asked how often the Cesarean operation had been performed in Chicago.

DR. W. W. JAGGARD thought Dr. Bartlett's paper a very ingenious essay, although not based upon sound surgical principles. In the first place, he thought the title of the essay a misnomer. The operative procedure proposed by Dr. Bartlett was not, in any sense of the term, a modification of or a substitute for Porro's operation. It was a perfectly distinct operation. Dr. Bartlett's method offered no advantages over Porro's operation, as modified by Müller and others. The abdominal cavity is not more thoroughly closed. The presence of a large pedicle does not embarrass the closure of the abdominal incision. The relation of the parts in the suggested procedure are not more natural and much less strained than in the *status* in which Porro's method leaves them. Drainage is entirely unnecessary when Porro's operation has been skilfully performed.

On the other hand, the positive disadvantages are numerous. The dangers of shock and hemorrhage in artificial inversion of the uterus have been very much underestimated by Dr. Bartlett. The cases collected from the literature of the subject, when they were at all relevant, were questionable as to authenticity. Accidents occurring to the uterus among the lower animals could not be adduced in evidence as to what would be the probable effect upon human beings under similar conditions. The thermo-cautery was inadequate to the arrest of hemorrhage from a large incision through the walls of the pregnant uterus.

The uterus could only be inverted with ease when it was pathologically flaccid—an exceptional condition. Porro's operation was performed in cases of the simple, flat rachitic pelvis when the antero-posterior diameter of the brim was six centimetres or under. Above six centimetres, craniotomy or the forceps is indicated. It would be very difficult to invert the uterus through the conjugate, oblique, or transverse diameter under such conditions. In the pelvis of Robert, or in the osteomalacic pelvis, in which the degree of contraction is usually higher, artificial inversion of the uterus would be well-nigh impossible.

Then, amputation of the inverted uterus is a dangerous operation *per se*. Of the forty-eight cases collected by Dr. West,¹ twelve terminated fatally. Of fifty-eight cases of amputation of the inverted uterus, reported from a German source,² eighteen terminated fatally. "In³ one hundred and six cases of amputation by ligature and otherwise, over thirty-one per cent of deaths occurred." But it is not necessary to multiply statistics. So great is the mortality of this operation that A. Martin⁴ has proposed as substitute the total extirpation of the uterus.

If, then, upon *a priori* grounds, Dr. Bartlett's suggestion has no real advantages over the modified Porro operation and, on the other hand, possesses actual disadvantages, it is scarcely probable that the expedient will receive serious consideration.

DR. J. SUYDAM KNOX said: Dr. Jaggard has about covered the objections I intended to make. My impression is that Dr. Bartlett in his paper has overestimated the relaxation of the uterus im-

¹ "Diseases of Women," p. 240.

² AMERICAN JOURNAL OF OBSTETRICS, August, 1868.

³ Emmet: "Principles and Practice of Gynecology," 1884, p. 436.

⁴ "Pathologie und Therapie der Frauenkrankheiten," 1885, p. 144.

mediately after delivery, and the ease with which inversion can be accomplished. Atony of the uterus is the first cause of inversion; and when we consider how minute is the percentage of inversions in the vast number of labors, we can fairly assume that relaxation immediately after delivery seldom occurs. If this be so, inversion, even with the *vis a tergo*, would be extremely difficult. Again, atony of the uterus is the cause of the most dangerous symptom or complication of inversion, namely, hemorrhage; therefore, the cases most favorable for the operation of Dr. Bartlett would be the last ones in which so doubtful an experiment would be tried. The Doctor has made a valuable suggestion. Any method that successfully removes the uterine stump from the abdominal cavity, without attaching it to the abdominal incision, advances the operation of hysterectomy. In the ablation of the non-pregnant uterus, I think Dr. Bartlett's method finds its best application.

DR. JAMES H. ETHERIDGE asked if the performance of inversion by forcible traction involved the full dilatation of the neck of the uterus. How does Dr. Bartlett propose to accomplish this, does he dilate it forcibly? With the uterus well up beyond the umbilicus, how do the broad ligaments come out of the pelvis, and with the uterus forced clear down out of the vulva, how much traction is there going to be on these broad ligaments? Is there room enough to permit the uterus to be drawn down?

Why, under the circumstances, could not forceps be immediately applied to the edge of the cut uterus, and arrest the hemorrhage, and the work be then proceeded with at pleasure? I speak of hemostatic forceps.

DR. E. W. SAWYER said: It seems a little presumptuous for one who had never had experience in this department to attempt to enlighten the Society. One of the most interesting questions to be decided is, which operation to perform. I confess if I were confronted to-night with one of these cases, I would be wholly incompetent to decide between Cesarean operation and the operation of Porro. It may be interesting to read the words of Lawson Tait upon this very point, showing his preference for the new operation, so-called. In the fifth number of the *British Gynecological Journal*, he says: "The whole of my experience in meddling with the pregnant uterus by abdominal section consists of five cases, three of the ordinary Cesarean section, and the two I am about to describe in detail. Of the Cesarean sections, one was performed for malignant disease of the vagina about fourteen years ago, the other two for deformed pelvis, respectively seven and five years ago, and the mothers died, and only one of the children is now living. The results indeed are such as to determine me never to repeat this procedure, having before me the arguments of Dr. Godson, and the fact that both my amputation cases have recovered." At the same meeting Dr. Routh said: "That he was much interested and instructed by Dr. Lawson Tait's paper. At the same time he could not help making some criticisms upon it. First, he believed that Mr. Tait had exaggerated the mortality of the Cesarean section. It was not anything like 99.971 per cent. Churchill stated that out of eighty cases twenty-three mothers were saved, or 28.7 per cent, forty-four children being saved. Dr. Radford, out of seventy-six cases he collected, found 14.28 were saved, and forty-six children were also saved. Dr. West, out of 409 cases, states the recoveries as 38.4 per cent,

237 children being saved. Now he (Dr. Routh) could not help feeling that if in these days of improved antiseptic abdominal surgery, the same skill and care were taken in cases of Cesarean section, the safety of the mother would be much more common." It is interesting to see how gentlemen will differ in their opinions upon such an important thing as the selection of an operation in an emergency case. So I am still in doubt whether to adopt the modern method of Porro or to depend upon the Cesarean section, which the remarks of Dr. Routh would indicate is quite as favorable.

At the request of Dr. Etheridge, Dr. Sawyer narrated the following case, showing the shock and hemorrhage of acute inversion: I will state very briefly an experience which, no matter how long I may live, seems as if it would never become dim. I have never had any doubt that the determining cause of the acute inversion in this case was the enormous distention of the uterus, due to the large quantity of *liquor amnii*. Before the woman was delivered, I was impressed with the fact that she probably had twins, but this was not the case. When the woman was delivered, the bed was flooded, the *liquor amnii* flooding the room even. I put my hand upon the woman's belly, as is my custom, and at the first indication of contraction of the uterus, I substituted the husband's hand for mine, that I might pay attention to the child. I am confident that the husband's fingers dimpled that uterus. I had no so soon detached the child, than I gave the usual teaspoonful of ergot; I was in a hurry on account of the flabby condition of the uterus, and for fifteen minutes my time was occupied in paying attention to the child, getting it to breathe. The woman, who had recovered from a small quantity of ether which I gave her, threw up her hands, and I saw she was pale. I put my hand under her husband's, and felt the edge of the uterus like the edge of a saucer; I could define the margin of the crater; my finger in the vagina met the globe inverted, and the truth flashed across me that I had an inverted uterus. Now fifteen minutes had not elapsed before that uterus was so firmly ergotized that it was impossible to replace it. I immediately resumed ether and the woman began to snore, but that made no difference, the womb was ergotized, and the woman died from shock and hemorrhage with the uterus unreduced.

Dr. Jaggard has called attention to the enormous hemorrhage, and this reminds me of a case in which I removed a fetus from the abdomen of a woman, in the little town of Boulder. The fetus had been in the uterus for three and a half years. It was an adventitious uterus, the exact structure of which could not be ascertained, but the hemorrhage from the false uterus was enormous, and I think destroyed the woman. If the false uterus and adventitious sac could bleed to that degree, and so early in pregnancy, the dangers of hemorrhage must surely be greater in the uterus at term, containing a living fetus and an active placenta.

This operation was done in 1874. The hemorrhage was cavernous. We arrested the hemorrhage by seizing the edges and puckering them up, and tying an enormous ligature around the stump; for a moment that arrested it, but the woman subsequently died.

DR. H. T. BYFORD said: Like any other operation, this one, supposing it to be an operation that has been performed, has its limitations. I think Dr. Jaggard's suggestion that a greatly contracted pelvis might afford sufficient difficulty to make the

operation impracticable is a good one, although I think that the uterus might be inverted through a pelvis too small or too much distorted for a safe craniotomy. Another limitation would be an undilated condition of the cervix. The irritation produced by rapid dilatation would certainly render the cervix unfit to be left as a stump, and make the Cesarean or Porro operation preferable. If the os is already dilated, then Thomas' revised laparo-elytrorrhaphy must be given precedence, provided there be no contraindications. The difficulty of inverting the uterus is not an imaginary one, and it seems to me that the best way to overcome it would be to invert the uterus, placenta and all, before the placenta is separated, and between pains. This would tend to still further limit the operation to cases without extreme contraction, and would bring it into rivalry with craniotomy. Its chief advantage over the Porro operation lies in not fixing the cervix several inches beyond its normal position; and here lies the germ which the author seems to be trying to develop. Should there be a condition of the uterus which would not favor the Cesarean operation as performed by Snger and Leopold, should the size of the cervix or vagina render fixation of the stump in the abdominal wound too difficult, were the uterine walls not sufficiently relaxed to be inverted, or the pelvis not roomy enough to allow inversion with the placenta attached, should the condition of the tissues about the vagina and bladder contra-indicate laparo-elytrorrhaphy, and should the os dilate naturally and easily, then this operation would find its rare opportunity. The process of carving out, or rather slicing around the cervix, and inverting the cervix, is easier to talk of than to perform. Any one who has seen the uterus amputated, even in cases of fibroid tumors, will agree that the loss of blood, including that taken off with the amputated pregnant uterus, and the vascularity of the stump, would make the process of inverting the sliced cervix very hazardous. The stump thus turned down would undoubtedly shrink rapidly, and become a hard one to manage. As to opening the uterus with the cautery, I think this would not possess much advantage unless complete constriction of the uterus and broad ligaments could be made, so that bleeding would not interfere with the complete searing of the parts.

DR. BARTLETT, in closing, said: Some of the Fellows taking part in the discussion, as they have stated, have not had an opportunity of hearing more of the paper than the bare proposition; not needlessly to occupy time, I shall pass over such objections (all of which I recognize as forcible), as have been fully considered in the paper now printed.

Dr. Jaggard refers to the authorities quoted by me as "questionable;" so far as my knowledge extends, not a case cited rests upon other than unquestionable authority. The doctor thinks the actual cautery would prove useless as a means of arresting hemorrhage from the uterine incision. Prior to the time of Ambrose Par , the cautery was relied upon "to arrest all forms of hemorrhage."

Dr. H. T. Byford has dwelt upon the difficulty of dilating the os *uteri* by artificial means, and in my opinion he has not exaggerated the difficulties often encountered in practice, where the parts are not prepared for dilation.

In regard to the embarrassment felt by the Secretary as to which operation to prefer, whether the old or the Porro method, I might say that, in face of the several substitutes and modifications, he would be amply justified in preferring the old Cesarean section.

TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF CINCINNATI.

Stated Meeting, May 13th, 1886.

The President, J. L. CLEVELAND, M.D., in the Chair.

DR. T. P. WHITE read an exhaustive essay, of which the following is an abstract.

THE NORMAL PUERPERAL STATE.

Labor no doubt is a physiological act, but acted upon as we are by the effects of civilization, and influences predisposing to disease, few of us live physiologically, so that at best labor is accompanied with considerable risk. What the rate of mortality may be is hard to determine, but, judging from the estimate of those who have investigated the subject, it is larger than generally supposed.

Duncan (*Edin. Med. Jour.*, Nov., 1869) states that there is one death to every one hundred and twenty births.

McClintock estimates the average at one to one hundred and twenty-six, but since says, in the *Brit. Med. Journal*, Aug. 10th, 1878, that his former estimate was much too low, and that one percent is by no means too large. It is evident that this physiological act is quite dangerous and deserving of the utmost care and consideration.

Prof. Gusserow, of Berlin, once made the statement to his class that many a woman's death warrant had been carried under the finger nails of her attendants; unfortunately, fatal cases of septicemia, no doubt, are often occasioned by too little attention to rules of cleanliness.

As pregnancy nears its termination, there is a gradually increasing hyperinosis, the blood is watery, the serum contains less albumin. The red corpuscles are decreased in number, at the same time the fibrin and extractive matter are increased.

This hyperinosis does not diminish immediately after birth, but is augmented by the effete material thrown into the system by the rapid involution of the uterus. Analyses of the blood show that, in the puerperal state, it is nearly allied to the condition known as anemia, and not to that of plethora which formerly was thought to exist; Cazeaux, after numerous examinations, affirms that it is really anemia, and as such should be treated.

In most cases, particularly delicate persons who have suffered much, there is a feeling of fatigue and exhaustion, a liability to shock, and not rarely a chilly sensation, even a chill may be felt on the first or second day. The pulse falls, sometimes as low as

forty per minute. As long as it remains low, the patient is doing well. The temperature, at first slightly elevated, usually falls in ten to twelve hours, oftentimes below normal; there is an evening rise, owing probably to the rapid oxidation in the involution of the uterus; the establishment of the milk is also usually connected with a rise of temperature, but it soon subsides. If a temperature of over 100° F. occurs, together with an increased rapidity of pulse, there is reason to fear some complication.

A small amount of sugar may be detected in the urine, but is of no importance.

There is a widespread popular opinion that the uterus completes its involution in two or three weeks; investigators of this subject, however, agree with Heschl, who averages the weight of the uterus at delivery twenty-four ounces; end of second week, eleven ounces; third week, five to seven ounces, and that it reaches its normal at the end of the second month. There is still a difference of opinion as to how the involution and reconstruction are brought about. Heschl, whose opinion is generally accepted as correct, thinks the entire uterus is absorbed into the vascular system of the mother, through a fatty degeneration of its muscular fibres, and is replaced by newly made fibres which begin their development on the second month. The lochia lasts usually three weeks, but may continue six without damage to the patient. Coagula retained in utero, which undergo decomposition, impart to the lochia a very disagreeable fetid smell, and increase materially the liability to septicemia; this must be remedied as soon as possible, syringing out the vagina with Condyl's fluid and water, or a sol. of corr. sub., 1 to 2,000, is often very serviceable.

By some it is thought advisable and necessary to leave an opiate with multiparæ to quiet the after-pains. Lusk, in his last work, advocates the practice, saying it influences in no way the uterine involution; others, equally known, oppose it for that reason.

It is a known fact that opium hinders retrograde metamorphosis, diminishes the secretion of urine, and produces constipation; its exhibition then must have a deleterious effect, when its action is so directly opposed to the conditions desired, in order to dispose of the effete material with which the whole system is charged. The after-pains are spasmodic contractions of the uterus, laboring to expel coagula, and are often relieved when at their height by the expulsion of the coagula. They continue usually three or four days, and can be distinguished from pain due to other causes by the contraction of the uterus during the spasm. Opium no doubt quiets the pain, but often does so at the expense of uterine contractions, that is, the pain is stilled by preventing the cause, the womb remains flabby, filled with a coagulum, involution is thereby retarded, and the way is paved to post-partum hemorrhage and septic absorption. In the Strassburg Hospital, we used opiates very sparingly, limiting their use almost exclusively to cases not

due to atony of the uterus, but seemingly neuralgic in character. Most cases were treated with belladonna and chloroform liniments, or, when opium was needed, it was applied as poultices or fomentations.

After-pains, physiologically considered, are rather salutary than otherwise, and our endeavors should be directed to preventing the formation of coagula, and not to the quieting of pain, which can usually be done by insuring good contraction of the uterus. The German method of giving ergotin after birth, in all cases of tedious labor, in fact in all cases where there is sign of insufficient contraction of the uterus, I think advisable; the limited number of severe cases of after-pains following its use proves conclusively to me that it is far better than the indiscriminate use of opiates. I use almost exclusively Merck's ergotin, dissolved in distilled water to which a little glycerin has been added to make it keep; if first washed with alcohol to extract the resinoids, it makes a clear, brown, non-irritating solution. Hypodermically is the best method of administration.

Playfair says, if proper care has been taken to insure a good contraction of the uterus, after-pains will seldom require treatment. Later, in cases of neuralgic character, quinine, in ten-grain doses twice a day, has been very successful, even in cases where opium has failed. Fothergill advises to give it with twenty to thirty drops of hydrobromic acid, which lessens considerably the cerebral congestion produced by large doses of quinine.

The desires and appetite of the patient are the best criterion as to what she should eat; spare diet for the robust, and build up the delicate, is a good general rule, but care must be exercised not to add stomach and intestinal disorders to those already existing.

I have seen splendid results, in delicate, nervous women, from the use of beef extract made out of the fresh-chopped meat; it agrees with most women and can be gradually pushed to five or six pounds a day without inconvenience. Under this treatment, a delicate, pale woman will often take on the rosy color of health within a month. Chopped beef seasoned to taste, spread on bread or crackers, is a convenient and less troublesome substitute, but not as efficacious.

After the patient has been washed and examined, and the bed put in order, it is advisable to allow a little nourishment and procure for the mother a refreshing sleep.

A common sequel of labor is the retention of urine, due to temporary paralysis of the bladder; if not attended to, the urine decomposes and is liable to occasion an attack of cystitis. As the patient herself does not feel the necessity, the practitioner must be careful and have the catheter used four or five times a day, if necessary.

The treatment of normal cases consists chiefly in securing prolonged rest; the first few days, absolute rest, as near as possible.

should be enjoined. If the uterus is flabby, a bed-pan should be used. In England, and on the continent, it is customary to have the patient remain ten to fourteen days in bed, and then recline on a sofa; the time must depend on the progress of the case, which each practitioner must decide for himself, always remembering that in the recumbent position the involution of the uterus is the most satisfactory.

As a rule, delicate women should not be permitted to walk before the end of the third week; the case may do well all the same, but I feel certain that a large majority of woman's woes in after-life are occasioned by subinvolutions, flexions, and their suites caused by laxity in this regard. A wise precaution is never to touch, or permit the nurse to touch, the genitals till after the hands have been thoroughly washed and moistened in an antiseptic solution; all soiled and dirty linen should be removed from the room, the vulva washed and the vagina syringed out twice daily; if nothing more is gained by the precautions than the comfort of the patient, it is well worth the trouble.

The great diminution in the death-rate of German hospitals since the antiseptic methods have been adopted speaks for itself. The danger, of course, is not near so great in private practice as in hospitals, but every physician is in duty bound to avoid even a risk to his patient.

There is considerable diversity of opinion on the utility of both intrauterine and vaginal injections. Some years ago, it was deemed advisable by the German school always to give one or two intrauterine injections, in order to wash away shreds of membrane or small bits of placenta, and it was thought by so doing to use a prophylactic against septic absorption.

Breisky was, however, opposed to all meddling; Semmelweis and Spiegelberg were much of the same opinion, but advocated antiseptics, in this much that all instruments, etc., should be disinfected; believing that self-infection was next to impossible, that all sepsis came from without, they opposed all interference until it was really necessary.

Dr. Alphons Mermann, *Arch. f. Gyn.*, page 146, 1884, discusses the two theories quite extensively, Semmelweis advocating subjective antiseptics, in contradistinction to Listerism, which he terms objective antiseptics.

The statistics of the Dublin Rotunda show only a mortality of seven-tenths per cent, and in Breisky's clinic, in which for the year 1881-1882 there were one thousand four hundred and fifty-four births, only two deaths from sepsis. In both places, the treatment is decidedly not active, which is quite conclusive that, as far as the uterus is concerned, the expectant plan is the best until energetic treatment is really called for.

Dr. Mermann also condemns vaginal injections, on the ground that they are powerless to disinfect the corrugated surface, and

that they are a source of harm, since the finger or nozzle can produce sepsis and decomposition of the coagula. Dr. Thomas, *N. Y. Med. Journal*, December 15th, 1883, enumerates a large number of prophylactic precautions to be observed in all cases; they were, however, so numerous and so extensive as to be impracticable, if not impossible, in most cases. We are dependent on the nurse, who, when encumbered by a superabundance of precautions, is apt to slight all, often forgetting the chief element—cleanliness. It is my opinion that intrauterine injections should never be used except when really needed; but as to vaginal irrigation, I saw it constantly used for over a year in the Strassburg hospital, and have since been continually ordering it, and never yet noticed any serious consequence that could be attributed to its use; quite the contrary, patients seem to derive great comfort from the soothing, cleansing effect of the water, and the heat tends to produce strong, healthy contractions, while the lochia cease early, thus showing good puerperal progress. An instrument which entirely excludes all air is absolutely necessary; for this reason, I prefer the fountain syringe to all others. If there is, however, no attendant whom I think competent, and who will observe necessary precaution, both with regard to the instruments and her own cleanliness, I decidedly prefer to lay aside all irrigation, because I believe, when badly used, it is a source of danger and often does more harm than good.

DR. GUSTAV ZINKE was of the opinion that nothing is more easily treated, and could be more cheerfully attended, than a normal case of labor. He thought that we have been frightened in many respects, by having pointed out to us the many dangers of sepsis; but least of the measures recommended were suggested by actual experience. He believed in preventive measures only to a certain extent. At first he began the antiseptic treatment, and carried it out personally and faithfully in all its minutiae, except when he was not allowed to adopt it, and yet these last cases did well. He practised it thus until about two years ago, when he observed certain ill effects which caused him to abandon it, and since that time he had never resorted to it in normal labor. He thought that complications were often caused by insufficient attention to cleanliness on the part of the patient, or the physician, or the nurse. He regarded vaginal injections as not only wholly unnecessary in normal labors, but as having a tendency to bring on complications rather than prevent them. He deems them necessary when complications already exist, as from injury of the parturient canal after delayed, difficult, or artificial labor, etc.; then these injections serve as would an emollient, or an ointment or a plaster on the exterior of the body; but nobody thinks of employing these measures as preventives. They are only resorted to when inflammations or injuries exist. Why then should we practise vaginal injections of any kind after normal delivery? This becomes a question of especial importance when we observe, read, and hear constantly of serious accidents following their use. He believed, therefore, in cleanliness alone in normal labor,

and not in antiseptics; for this reason he also rejected the antiseptic pad.

For the relief of after-pains he preferred hydrate of chloral, or bromide of potash, or both combined, to opium. He was in the habit of giving ergot in half-teaspoonful dose just after the labor, but he would not assert that, on that account, he had lessened the after-pains or increased his success. He would confess that he often gave ergot simply because the patient had been accustomed to it in former labors; many times he gave it without special reason, and only occasionally was he compelled by necessity to have recourse to it.

DR. GILES S. MITCHELL complimented the essayist upon the exhaustiveness of his paper. He believed that the importance of scrupulous cleanliness and rigid antiseptic precautions in midwifery could not be overestimated. The statement of Gussow that the lying-in woman's death warrant is often carried under the finger nails of the accoucheur is only too true. Such criminal carelessness is deserving of the severest punishment. It was an inviolate rule with the speaker to take a bath and change his clothing before attending a case of labor. It was also routine practice with him to order the nurse to give patient vaginal injections, twice daily, of hot water containing one drachm of carbolic acid to the quart. Ordinarily the injections were not begun until the second day after delivery. Speaker recommended no special kind of syringe, and had never seen any unpleasant symptoms follow vaginal injections. Intrauterine injections, however, are not devoid of danger, and should never be employed, save in cases where the symptoms, *i. e.*, elevation of temperature, offensive lochia, etc., plainly indicate the retention of a portion of placenta or shreds of membrane. Speaker had witnessed alarming syncope occur in one case, during irrigation of the womb. He thought the antiseptic pad not only beneficial, but practical. It could readily be improvised by saturating gauze or absorbent cotton in a solution of mercury bichloride, one part to two thousand. Speaker thought the established rule of allowing a patient to leave her bed on the tenth day was a bad one to follow. Many uterine ailments are directly traceable to a too rapid getting up. The upright position should not be assumed until the degree of involution is such that the womb again sinks into the pelvis. Speaker insisted upon all of his parturient cases remaining in bed at least two weeks. He had reference to cases of natural labor only.

DR. C. D. PALMER said he thought that no more practical topic for discussion could be brought forward, and he was glad it had been introduced by the author of the paper.

As to *ergot*, he used it in all cases, always immediately after the expulsion of the placenta. He thought it not only guarded against post-partum hemorrhage, but by inducing good uterine contractions, prevented after-pains. Very seldom, indeed, did he find it necessary to prescribe any medicine whatever for after-pains, even in multipara, in consequence of the effects obtained by ergot, after the uterus was once thoroughly emptied. Repeated, small doses of ergot, two to three times a day, favor uterine involution.

As regards the diet of the puerperal woman, he earnestly advocated an abundance of food. After some restrictions for the first few days, and after the incoming of the milk, the diet should be abundant and highly nutritious.

He believed two weeks of the recumbent posture short enough so far as the welfare of the pelvic organs was concerned.

The introduction of the subject of treatment of the puerperal woman by vaginal injections was important, and very properly the discussion had largely turned in this direction.

Dr. Palmer advocated the use of vaginal injections in all cases. Some eight years since, he disapproved of their habitual use, and wrote a short paper on the subject. Now, he has changed his mind and practice, as have some others who have participated in the discussion this evening.

The speaker advocated vaginal injections for two reasons:

1st. *For the positive good they will do.*

2d. *For the positive harm they may prevent or control.*

Under the first heading, vaginal injections are useful in that they promote the patient's comfort. If we were to consult our patients, we would almost constantly employ them. Expressions of comfort and relief obtained are very generally made. Again, vaginal injections do good by promoting vaginal and uterine contractions and involution. To do so they should be *hot*, and a quart and more of water employed. And, again, they do good by cleansing, thereby favoring the healing of torn surfaces of the perineum, vagina, and cervix uteri. These lacerations, as we all know, are very common; often small in extent, too small to require stitching, or so located as to forbid it. Such lacerations are much more apt to heal by first intention, or more quickly by second intention, if irrigated, one to more times a day, with hot water. We would all hear and see much less of lacerations of the cervix uteri and its results, if vaginal injections were properly used in all cases, and the horizontal position maintained for a longer time than is usually observed.

Under the second heading, we must recognize the great frequency, variety of effects, and danger from puerperal sepsis.

A great many women show some septic influence, beginning in the first few days after delivery. It is very probable that the so-called milk-fever is a sepsis.

A large number of the cases of puerperal inflammation, vaginitis, endometritis, paracervicitis, parametritis, perimetritis, lymphangitis, phlebitis, etc., are septic in character. The septic poison excites, prolongs, exaggerates an inflammatory process which would not have existed at all, or otherwise would have been mild.

Will vaginal injections prevent, modify, or control these? May they prevent puerperal fever, arising from the decomposition of uterine and vaginal fluids, or from exogenous causes?

If we keep the vagina reasonably clean, at least remove clots, do away with the retention and decomposition of the same within the vagina, we certainly do much towards protecting our patients.

Says one: Air does not enter the vagina after delivery with the external soft parts in natural condition and shape, but it is made to enter by the use of the vaginal tube. The first part of this statement is not true. Air does enter the vagina of all women after delivery. Its exclusion would be well-nigh an impossibility, during the changes in position, efforts at stool, and emptying the bladder. Decomposition then to some extent will take place among its retained fluids.

It is said that vaginal injections are unnecessary. How can this

be proven? Every puerperal woman is an exposed subject. It is wise to give her the best protection possible. To say that the injections are unnecessary would be equivalent to saying that it is useless to administer quinine as a prophylactic to persons who are exposed to well-recognized malaria in a marshy district because all would not get the disease; or that it is useless to vaccinate all, because some may not get variola without vaccination. There are those who will resist the poisonous influence of anything; but we can never tell in advance just who these are. Though many women delivered in poverty and filth do not have puerperal septicemia, yet we should not be thrown off our guard in endeavoring to protect others. There is such a thing as becoming acclimated to filth, while the better class of patients may die from slight infections.

All of those who discard vaginal injections as a routine practice, recommend and use the same whenever the lochial discharges are offensive. See the inconsistency of these practitioners! They advocate the use of a remedy to antagonize certain conditions, but denounce the same in prophylaxis. Is there danger of sepsis *only after* the vaginal discharges have become offensive? Has the damage not infrequently been done already before the sense of smell sounds the alarm? Is there no danger of sepsis, not only before, but even when no offensiveness of odor is at any time noticeable?

The poisonous elements of sewer gas do not reside in the odor. A family may be unconsciously poisoned by sewer gas; so with the lochia. The most dangerous of all micrococci impart no odor to the lochia by their presence. Some septic bacteria are odorless.

It is absurd, then, to wait until the lochia is offensive. If vaginal washes can correct offensive odors and kill existing septic germs, they certainly can do as much in preventing both.

The opponents to vaginal injections place much stress upon the charge that they are harmful. It cannot be denied that they have at times produced unpleasant symptoms, possibly death, but it is here emphatically denied that they generally, or ought to do so. Our friend, Dr. Cleveland, reported a case several years since, of probable death following the use of a Davidson syringe after normal parturition. The case has been referred to often, and made to do much service to prejudice practitioners against a useful and valuable method of practice. But can we not explain these unpleasant symptoms? Can it not be shown that they need not occur? The statement is ventured that, in more than nine times out of ten, these unpleasant and dangerous symptoms are attributable either to some fault of the practitioner, or to the method employed. A Davidson syringe has been used, the temperature of the injected fluid has been too low, the orifices of the tube have been too large, or badly located, the tube has been improperly inserted, the posture of the patient has been faulty, air or water has been recklessly injected within the uterus, etc. To some one or more of these may the fault be traced.

Vaginal injections after delivery, if properly used with a Fountain syringe, water of good temperature (generally hot), and with other well-known precautions, either by the practitioner or a trusted, skilled nurse, are safe; at least the danger is exceedingly small—so small, compared with the direct and indirect benefits to be derived, that it may be ignored. It is a feeble excuse to say that

the vaginal tube carries with it disease germs. It need never. One is in duty bound to observe all possible cleanliness and antiseptic precautions with his syringe that he would with his own hands and person.

To discard this means of prophylactic and curative treatment of the puerperal state, because in careless and incompetent hands harm has been done, would be equivalent to throwing aside some of our most valued remedies because instances have happened in which injury has followed their use. Abuse is no argument against the proper use of anything.

It is very difficult to decide this question of the propriety of the use or non-use of vaginal injections after labor, by the expressed opinions of different obstetricians. Wherever this question has been discussed in different societies, about an equal number have taken either side. Lusk and Playfair favor their use. So far as the speaker's personal experience is concerned, he had not only not an unpleasant result to mention, but his puerperal cases had convalesced both more speedily and smoothly, with less of those slight septic influences so common after delivery, since he had used hot, antiseptic injections, commencing within twenty-four hours after delivery, and continuing once to twice or more times daily, for two weeks.

Exterior cleanliness is insufficient, and cannot, for reasons stated, take the place of vaginal irrigation. The plan of Garrigues, which has proved so successful in the *Maternity Hospital*, was excellent in itself, though the speaker believed that the antiseptic pad in itself could not supersede antiseptic irrigation. The greatest security and benefits were to be obtained by the conjoint use of both.

As to the use of intrauterine injection after delivery, that is another question. This method of treatment has its place and power, but should not be confounded with the one under discussion to-night.

DR. C. O. WRIGHT was not in favor of antiseptic injections in normal cases of labor. He believed in them, indeed, so far as they were a measure of cleanliness, but he did not regard them as a specific against puerperal septicemia. At one time he also applied the maxim, "an ounce of prevention is better than a pound of cure," to this subject, but he had dropped that principle when he witnessed women in the higher walks of life, in spite of all antiseptic precautions, contract puerperal fever, whilst those of the lower classes, with all disregard to cleanliness, seldom were attacked by this disease. He did not wish it to be inferred, however, that he disregarded cleanliness, but rejected the idea of that form of it as understood by antisepsis. He allowed nature to take its course as long as it was compatible with safety to the patient. Should it fail, he employed water and whiskey freely, but seldom resorted to vaginal injections in normal cases. He allowed his patients to sit up on a vessel as early as the second or third day after labor, for the purpose of permitting the clots to come away. In his own practice he had yet to see the first case of puerperal fever. Consequently, if individual experience was worth anything, his experience ought to prove that vaginal injections were unnecessary.

In answer to Dr. Palmer's statement that ergot would prevent after-pains, Dr. Wright related an instance where he attended a lady during her fourth confinement. This patient told him that

she dreaded nothing so much—not even excepting labor—as she did after-pains, with which she suffered greatly after her three previous labors. On inquiry, he learned that her former attendant had regularly administered ergot. The speaker profited by this experience, withheld the drug altogether, and in place of it administered fifteen-grain doses of bromide of potassium, in consequence of which the patient experienced no after-pains. How could Dr. Palmer reconcile these differences?

DR. E. W. MITCHELL thought the chief interest of the paper related to the use of antiseptics.

Whether antiseptic *principles* should be applied in the lying-in chamber was no longer an open question. The decided reduction of mortality which has in every instance followed their adoption stands as an unanswerable argument. There is, however, a question as to the details of application, and especially as to the extent to which germicides should be employed. At one extreme, we find Dr. Thomas and his followers who advise repeated injections, frequent introduction of iodoform, suppositories, etc.; at the other, those who reject the germicides and rely upon simple *cleanliness*.

In the first place, it is to be remembered that by cleanliness is now meant much more than in former times. Such scrupulous attention to the cleansing of all the surroundings of the patient herself, and of the attendants, was scarcely thought of before the days of antiseptics. It is in fact but the application of the first and the great principle of all antiseptic treatment. Yet granting this, and that in the majority of instances cleanliness *may* be sufficient, he could not admit that antiseptic agents could safely be dispensed with. He could scarcely believe that our forefathers were so very far behind us in cleanliness that the whole results in the recent reduction of mortality may be explained on that ground alone. If in the Maternity Hospital of New York, to select one example from many, the mortality was almost immediately reduced from seven per cent to less than three-fourths per cent, the germicides used must claim their share of credit. With our present light upon this subject, the prudent physician should not discard them.

The use of injections, however, is but one of the details, and is the main point of disagreement. For several years their use has been almost universal. There now seems to be a tendency among leading obstetricians to omit them in normal cases. When Dr. Thomas, in that memorable discussion in the New York Academy, propounded his ten rules, there was quite a general protest from the profession against the multiplicity of details, and the frequent disturbance of the patient involved. There is evidently a growing tendency to follow such teachings as those of Dr. Garrigues, applying the antiseptics externally and omitting injections.

Unfortunate results from the use of vaginal injections have been reported. Even Dr. Thomas, in his able advocacy of them, admits one case in which alarming symptoms followed a vaginal injection. We must admit, then, that there is risk in using them, and hence we are not justified in their employment unless it can be shown that they are of great benefit to the patient.

Although in his own experience he had had no bad results from vaginal injections, careful study of the subject had convinced him that they did not prevent puerperal fever, that there were risks not counterbalanced by their advantages, and hence he had aban-

done them in normal cases, except a single injection at the completion of the third stage.

In his own practice he had adopted the following rules: (1) Thorough cleanliness in his own person, taking a bath, and complete change of clothing if in attendance upon any cases of the infectious diseases, washing the hands thoroughly in soap and water and before each examination (which are made as seldom as the case will allow) using an antiseptic wash; (2) Taking pains to see that the nurse has not been in attendance upon, or in contact with, any infectious disease, and having her also wash her hands thoroughly, and rinse them in the antiseptic; (3) Looking after the surroundings of the patient, that they may be made as favorable as her circumstances will allow, and especially that she is not exposed to scarlet fever or other infection; (4) The nurse bathes the genital parts of the patient occasionally with an antiseptic wash if the labor be prolonged; (5) After the expulsion of the placenta, a hot vaginal douche is given. If hand or instruments have been introduced into the uterus, a uterine douche is given (bichloride 1:2,000). (6) A pad of absorbent cotton is applied to the vulva, and held in place by a bandage. The nurse is carefully instructed in its proper adjustment, and is to change it several times a day, immediately burning the one removed, and bathing the external parts with the antiseptic. This pad is a protection against infection from without if properly applied, is cleanly, comfortable, and inexpensive. Particular pains are taken to secure efficient contraction of the womb. Half a drachm of ergot is given at the completion of labor, and repeated twice a day for two or three days. No vaginal injections are given unless the lochia become offensive, or some septic symptoms develop.

DR. JULIA CARPENTER said that in a normal case she had never used vaginal injections, but kept strict watch over every case, and if there was the least indication for their use, from any cause, she administered them herself, not trusting them even to a trained nurse.

One important point in attending an obstetric case was the length of time to remain with a patient after the completion of labor. At Vienna it was the rule to remain in attendance three hours afterwards. She had so far followed this rule. It made the case more laborious for the physician, but was extremely safe for the patient. In one instance she had saved the life of a lady where a post-partum hemorrhage began suddenly, two and a half hours after delivery. Only one already by the patient could have saved the life.

DR. THAD. A. REAMY said, in the reference to the use of ergot, that it should rarely if ever be given before the close of the third stage of labor. For many years he had, as a matter of routine, administered it immediately upon delivery of the placenta. Most authorities recommend this practice as a safeguard against post-partum hemorrhage. It is also claimed that it promotes involution of the uterus. Recently, however, he had come to doubt the propriety of such practice as adapted to every case. He would, of course, say nothing against its propriety where marked tendency to hemorrhage exists (uterine inertia). On the contrary, he would heartily indorse it. He believes, however, that no clinician will deny that the normal conduct of the uterus is to continue the process of rhythmical contraction after expulsion of the placenta

until retraction is completed. During this process the uterus is emptied of the blood which has escaped upon placental detachment, likewise some of the blood still in the uterine circulation is thrown into the uterine cavity, an end which he considers desirable rather than to be deplored, except in cases where, from the woman's condition, the loss even of the normal amount of blood cannot be borne.

Tetanic contraction of the uterus temporarily arrests hemorrhage, but every obstetrician of experience recognizes the stony hardness of the uterus, following expulsion of the placenta, the uterus often being of considerable size, as a distinct condition from the soft yet firm state of the uterus produced by its retraction. Every one knows that this hard condition of the uterus is tetanic contraction, and that it will be followed by relaxation which, very likely, will be attended with hemorrhage.

The action of ergot is to produce tetanic, not rhythmical contraction. It closes the uterus upon its contents, but does not favor expulsion of its contents.

In the opinion of the speaker, if the uterus is permitted to contract and relax naturally, after expulsion of the placenta, until the state of retraction is reached, not only will the uterine circulation thereby be placed in its normal condition and hemorrhage be prevented, but the process of uterine involution will be more naturally carried forward. For he believes that the tetanic contraction of the non-striped muscular fibre of the uterus, produced by the action of full doses of ergot, is followed by loss of contractile power in this fibre—a loss which it does not fully regain, and therefore an essential factor in involution is destroyed. This, of course, only applies to the full action of ergot, the administration of very small doses is not, therefore, so objectionable. He makes this discrimination because he knows it to be quite common practice to give from half a drachm to a drachm of Squibb's fluid extract, at a single dose at the close of labor.

The force of these views would, he thought, be more fully appreciated when it is remembered that the process of uterine involution commences with the first parturient contraction and continues during every stage of labor. He was perfectly aware that his position would be met by the statement that if the uterus relaxes after its first contraction upon expulsion of the placenta, the thrombi which have formed in the vessels are now so imperfect that they are washed out. He concedes the truth of the statement, but believes that this is desirable, that the first thrombi are intended to be temporary only, and that when contraction again occurs the vessels are left smaller, and so on each time until the thrombi are no longer of service in arresting hemorrhage. It must not be forgotten that thrombi which reach to the inter-muscular structure of the uterus are pathological. The retraction of arterial twigs, the flattening and obliteration of the so-called sinuses and the permanent closure of the veins, all of which is accomplished when retraction has occurred, are procedures which are much more certainly assured when retraction has been reached through the normal processes of rhythmical contraction.

He had no doubt but his position would also meet with the criticism that ergot is one of the most efficient therapeutic agents in the treatment of chronic metritis, a condition closely allied to subinvolution. This he would also concede, but he would likewise call attention to the probability that the violent action of ergot

upon the non-striped muscular fibre of the uterus, under the conditions above named, would very likely favor the development of acute metritis, to such an extent at least as to give it more or less causal relation to the first stage of subinvolution.

As already implied, he wished to say nothing against the use of ergot in controlling or preventing post-partum hemorrhage. On the contrary, he knows it to be one of the most reliable agents, and employs it, with other means, in all such emergencies.

As the paper was confined to normal labor with after-management, so we must confine the discussion as to antiseptics or germicides. We are not to discuss septicemia, for it is not assumed that septicemia is a necessary attendant upon the lying-in state.

The recommendation is made in the paper, also in its discussion, to inject the vagina of a recently delivered woman with carbolic water, this to be continued during convalescence as a precaution against septicemia. I do not believe the practice justifiable. At the present time, scarcely anybody will claim that the germicide properties of carbolic acid are immediate. To destroy pathogenic germs it must be in contact with them for a long time, much longer than is possible during a vaginal injection, assuming their presence in the vagina. It would be equally efficacious to wash out the vagina with simple warm water, still better with soap and water, or salt and water. This objection cannot be made, however, against the bichloride solution, for experiments show that it acts upon round bacteria with great promptness. Nevertheless I am opposed to its use as a routine practice, however valuable it may be where septicemia is threatened. It cannot be denied that, when the solution is of sufficient strength to act as a germicide, there is some danger of its toxic effect upon the patient, and this danger is greater if septicemia be not present than when it is present.

Assuming the necessity for vaginal injections in normal cases, they should be used every hour—a preposterous proposition.

Gentlemen seem to forget that the normal local discharge is in no way noxious. On the contrary, the slight abrasions of the parturient tract heal more rapidly under its protection than otherwise; vaginal injections therefore do harm by interfering with the natural course, and may do positive harm by shock, introduction of fluid into the uterine cavity, etc. Should the lochial discharge become offensive in cases considered normal, the question of antiseptic injections may be considered, for now the danger of shock from introduction of fluid into the uterus or other sources is not so great.

The speaker had long since abandoned the use of vaginal injections in normal cases of obstetrics. Indeed, except for a short timesome years since, he had never employed them, and during that time he encountered relatively more accidents and complications to his patients than at any other period of his practice.

He would not be understood as opposing cleanliness. On the contrary, he regarded it as an indispensable element of success in obstetric practice. He considers that the septic character of puerperal fever is no longer a question for discussion, and that prophylaxis demands of every obstetrician that the exclusion of all organic matter which is possible from the parturient chamber is an imperative duty. He was in the habit of establishing the most rigid rules as to the preparation of the patient and of the lying-in apartments.

It was his custom, when entering upon the attendance of a patient in labor, to ask for a clean apron, to be furnished at the house, which he regarded as much better than carrying one of his own. After every digital examination, washes his hands thoroughly and recleans his nails. After delivery, he remains to see that the nurse removes from the body and bed everything that has been soiled. Prior to this attention to the bed, he orders the genitalia of the patient thoroughly washed with warm water and soap, and if the labor has been protracted, he has the vagina washed out as a part of the manipulation. After this he orders a napkin moistened with spirits of camphor applied to the external genitalia, which adds to the comfort of the patient; but here, in normal cases, vaginal injections end.

Dr. Reamy, in reply to the remarks of Dr. Palmer, said that if the experience of physicians in private and hospital practice could add nothing to the settlement of this question, he would be glad to know how it is to be settled. He would like to know by what rule we could use simple water in one instance; in another, the bichloride solution; and in another, carbolic acid? For it must be remembered that we are discussing the management, not of cases of septicemia, but of normal cases. Everybody knows that we may have septicemia in its most fatal form without offensive odor to the vaginal discharge; this is notably true of the so-called lymphatic variety of puerperal septicemia. It is also true that in these cases vaginal injections, even with the bichloride, do little or no good. But the statement of Dr. Palmer goes too far, viz., "that in all cases of septicemia no odor can be detected." The facts are that the most typical cases of puerperal septicemia are characterized by offensive odor.

There is no more perfect type of septicemia than when, after an abortion or a natural labor, there are portions of retained placenta undergoing decomposition.

Who has not seen many such cases where the odor was pronounced, the discharge more or less abundant, the temperature and pulse of the patient greatly increased, abdominal tenderness, sometimes tympanites being present; on removal of the retained portion of placenta, the symptoms vanishing as if by magic?

The only practical way to test the question in dispute is for the same practitioner to treat one hundred patients in private practice without using vaginal injections, and then to treat one hundred patients by employing bichloride or carbolic-acid injections daily during convalescence, carefully noting the results in each case.

Finally, the speaker wished to enter his protest against the practice of allowing women to leave the lying-in couch within six to eight days after delivery. He believed that she should be ordered to assume different positions, on the sides, back, etc., after the first day, but that she should remain in bed most of the time during the month. He considered these precautions necessary to complete involution of the uterus and vagina, and as prophylaxis of uterine displacement.

DR. PALMER, in reply to Dr. Reamy, wished to correct the misunderstanding which his remarks implied. He did not state that there was no odor in cases of septicemia: to the contrary, there usually is. But the fact that there is none is no proof that there are no septic bacteria present, and consequently a great source of danger.

DR. WHITE, in conclusion, remarked that in spite of all arguments advanced to the contrary, he must declare himself in favor of antiseptic injections. He saw them used in Strassburg during a period of eighteen months, and could testify to the good results. Every one connected with the institution was a witness to the favorable change in the mortality record after antiseptic injections were regularly and intelligently instituted. Patients who had once received them demanded them again. He would admit that, in the absence of proper precautions, they might do harm, but this harm resulted from abuse. Septic infection may occur in a variety of ways, and some diseases unmistakably due to this cause are usually not classed under the head of septic infections. Thus, for instance, pelvic cellulitis may spring up as the result of infection, and yet very few persons think of attributing it to septic influences.

TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF LONDON.

Stated Meeting, July 7th, 1886.

The President, DR. POTTER, in the Chair.

The following specimens were shown:

1. Dr. Daly. *Growth removed from uterus after delivery.*
2. Mr. Doran. *Malformations of the Fallopian tubes.*
3. Dr. Galabin. *Growth removed from cervix uteri of a girl only seventeen years old.*
4. Dr. W. S. A. Griffith. *Portions of ovaries resembling cystic chorion.*
5. Mr. Knowsley Thornton gave details of the fatal termination of the case from which the specimens he showed at the previous meeting were removed.

Papers:

DR. HERMAN:

A CASE OF CHRONIC ABSCESS OF THE FEMALE URETHRA.

The patient, aged 47, had for four years suffered from dysuria, about two years from dyspareunia and irritability of the bladder, these symptoms gradually increasing in severity during this time. There was a tender swelling between urethra and vagina. This burst into the urethra, pus being discharged. Examination with the finger through the dilated urethra, eight days afterwards, showed that the cavity was then about the size of half a walnut, with a soft, ragged, friable wall. Its interior was cauterized with nitrate of silver, and it soon contracted and disappeared. Four months afterwards the patient continued quite well.

The author thought that there were two possible explanations of the origin of the abscess: (1) That it was the result of chronic congestion of the urethra, such as that described by Sir C. M. Clarke; (2) That it was a suppurating cyst. Abscess from either of these causes was rare. He quoted three cases that he had been able to find recorded. He gave reasons for thinking that the abscess in his case was probably not a suppurated cyst, and that the case was therefore to be classed with those of congestion of the urethra, described by Sir C. Clarke and Dr. West.

DR. DALY said that, in a case of congestion of the female urethra which had resisted all treatment, the patient being for months confined to bed and suffering intense pain, he applied iodoform every day along the entire course of the urethra, and obtained a rapid cure. The application was made by filling the groove of a director with iodoform, and when the director was well in the urethra, reversing the direction of the groove. He had to thank Dr. Herman for the suggestion.

DR. MATTHEWS DUNCAN had seen many abscesses in the recto-vaginal septum, but he remembered none in the urethro-vaginal septum. Chronic urethritis he had often seen, and also some cases of urethrocele.

DR. GERVIS, though surprised at the statement in Dr. Herman's paper as to the rarity of the condition described, could certainly only at the moment recall one case. In this the symptoms had been painful micturition without evidence of cystitis, and of pain, swelling, and tenderness referred to the vagina. On examination, an abscess was found in the anterior vaginal wall, in association with the urethra, and the same evening, probably as a result of the examination, which included the passage of a sound into the bladder, it burst into the urethra, and the patient made a good recovery.

MR. KNOWSLEY THORNTON had seen a few cases of the kind. He would raise the question as to whether the condition described by Sir C. Clarke was the same as that for which Dr. Emmet, of New York, had invented a special operation. If so, the condition must be much more common in America than in this country.

DR. WYLIE, of New York, said that the condition for which Emmet's operation was chiefly used was prolapse of the mucous membrane of the urethra in elderly females.

MR. DORAN referred to an interesting case of a diverticulum in the female urethra described by Santesson, of Stockholm, and published in the *London Medical Record*, March, 1885. The symptoms were very puzzling until the parts had been carefully explored.

DRS. GALABIN and M. HANDFIELD JONES also made remarks, and DR. HERMAN replied.

DR. CHAMPNEYS:

OBSERVATIONS ON THE UTERINE BRUIT.

The author records a series of observations on this point, some of which have been already recorded in this country, some abroad only, and some are recorded (it is believed) for the first time.

The first series includes forty-six nearly continuous observations

made at the General Lying-in Hospital regarding (1) the position of the maximum intensity before labor; (2) after the expulsion of the placenta; (3) the presence of pulsating arteries felt by the vagina, and the effect produced on the bruit by their compression. The bruit was heard on the left side in thirty-three cases, on the right side in one case. It was heard after the expulsion of the placenta in five cases. In all cases, when heard after the expulsion of the placenta, its point of greatest intensity had sunk down after delivery. In five cases a pulsating artery was felt in the vagina; pressure on it affected the bruit in one case only. The preponderance of left-sided over right-sided bruits confirms the view that the bruit is produced in the arteries as they reach the uterus or soon after, the left cornu of the uterus being anterior to the right (dextral torsion). One observation concerns a case of placenta previa in which the bruit and the placenta were on the left side.

The author analyzes Rapin's and Rotter's papers, the latter of which concerns the relation between a uterine bruit heard, and a thrill felt.

The author records two cases in illustration of the same point, and one case in which the same observation was made in the case of a fibroid tumor of the uterus, and one in which post-mortem examination seemed to show that a uterine bruit was situated in a large sinus running over the surface of a fibroid tumor.

DR. GERVIS asked why Dr. Champneys adopted the term "palpable bruit," to express the perception of a localized pulsation, and also whether in the course of his observations he had found corroborative evidence of Dr. Hicks' suggestions as to the effect of the uterine contractions on the character of the souffle.

DR. HERMAN thought that the variations in loudness of the murmur to which Dr. Gervis had referred were of much importance in identification. There was no kind of abdominal enlargement in which a murmur having rhythmical variations in loudness was heard, excepting that produced by uterine tumors. The presence of such a murmur showed that the tumor was uterine, but did not give any further information as to its nature. The murmur might be as a rule louder and the variations more marked in pregnancy than in fibroids, but he had heard murmurs over some fibroids louder than those in some cases of pregnancy. The murmur was not to be relied upon for the diagnosis between fibroid and pregnancy.

DR. JOHN PHILLIPS asked if Dr. Champneys had any experience in vaginal stethoscopy and, if so, whether it was corroborative of the hypogastric signs. He was aware that there was naturally a certain feeling of aversion to this method of diagnosis, but thought that if any facts of scientific value could be thus obtained, it might be permissible or even advisable.

DR. A. ROUTH asked how long the uterine souffle persisted? (1) After labor, (2) after the death of the fetus in utero. He had seen a case at Charing Cross Hospital, where labor had to be induced for uncontrollable vomiting, in which vaginal stethoscopy proved the souffle to exist two or three weeks after the presumed

death of the fetus, which was mummified, the souffle being inaudible over the abdomen.

He had frequently heard the souffle per vaginam over the cervix uteri when it was inaudible over the abdomen, and so far as his experience went, he had found that, whenever the souffle of a pregnant uterus was audible over an abdominal area, it was also audible over the cervix uteri per vaginam. In one case of the souffle being heard in the abdomen over the site of a uterine fibroid, it was not audible over the cervix uteri. If this distinction of the area of diffusion of the souffle of pregnancy and that of a uterine tumor be trustworthy, it would serve as a material aid in differential diagnosis.

DR. W. S. A. GRIFFITH thought that the dextro-torsion of the uterus, which only occurs to a very limited extent, was by itself insufficient to explain the frequent absence of the uterine souffle on the right side. Some other explanation was wanted which would apply equally to the cases in which it was absent on both sides. The great cause of the bruit was almost certainly the passage of blood suddenly from a small into a larger channel, at the junction of the uterine arteries and sinuses.

DR. GALABIN and MR. HANDFIELD JONES also made remarks.

DR. CHAMPNEYS, in reply, said that the subject was so large that he had not attempted a complete study of it; in this sense his observations were confessedly imperfect.

By palpable uterine bruit, he meant a bruit which was also palpable as a thrill.

He was inclined to agree with Dr. Herman, that marked rising in pitch was characteristic of the souffle in the pregnant uterus, rather than in fibroid.

He had not used the vaginal stethoscope, as the gain was very questionable, and the objections obvious.

He had never observed dirotism in the souffle.

The souffle was often musical, the various notes forming a sort of chord, and this pointed to their being produced by many vibrating bodies.

He could not answer the question as to the exact length of time the souffle was audible after delivery without referring to his Hospital notes.

The entrance of blood from a small into a large cavity was probably the chief cause of the souffle; but there are many other sufficient causes, such as the sudden curves in the arteries, the quality of the blood, etc., etc. To eliminate these is difficult.

REVIEW.

THE BRITISH GYNECOLOGICAL JOURNAL: being the Journal of the British Gynecological Society. Edited by FANCOURT BARNES, M.D. London: Smith, Elder & Co. Parts V. and VI. for May and July, 1886.

Besides the usual summary of gynecic literature, the better part of which the readers of this JOURNAL have already seen, these two

numbers contain many interesting reports of cases, but somewhat less than the usual number of elaborated papers.

In part V., DR. CHALMERS reports three cases illustrating the sequelæ of septicæmia in the puerpera, when in feeble health and under bad hygienic conditions. The doctor holds that a large proportion of cases of septicæmia may be averted by precautions in the direction of cleanliness and the use of disinfectants; but that in a certain number of cases the conditions which render blood-poisoning possible, and perhaps even inevitable, exist already in the fluids and tissues of the mother, and are only waiting the act of parturition to call them into active operation, and to him a most difficult and interesting problem rests in the question: How are we to prevent autogenetic septicæmia where there is this unhealthy condition of the mother? The discussion which follows, though interesting, develops nothing new in the way of treatment or prophylaxis.

MR. LAWSON TAIT reports two cases of "Amputation of the Pregnant Uterus," and becomes very enthusiastic over the merits of the Porro operation which, he states, should always be done in preference to the Cesarean section or craniotomy. These latter procedures he regards as immoral and wicked. "He could not in any way share the views of those who were content to murder children time after time, and to secure for the mother a repetition of such a terrible risk." In his enthusiasm, he exaggerates very considerably the mortality following the Cesarean section, giving it as 99.971 per cent. and, in view of this enormous death rate, is "disposed to believe that in any case where the impediment to delivery is such as to require the destruction of the child, and to require this inevitably in a subsequent labor, the performance of Porro's operation as a first step would be by far the best decision in the interests of all concerned." In regard to this percentage, as Mr. Tait says that he has "turned up authorities and made inquiries," he must believe himself to be right; but, certainly, one whose statements carry so much weight should be more careful in his assertions. Dr. Robert P. Harris, well known for his accurate and careful statistics of the Cesarean section and its modifications, gives the general mortality after the old Cesarean section, including operations upon moribund subjects, as 81 per cent in Great Britain and 60 per cent in the United States, and this mortality is greatly reduced in the modern, early, antiseptic operation, with its careful suturing of the uterine wound. In so far as the mortality is concerned, there can be but little doubt that the modern Cesarean section will compete successfully with the Porro modification; and if this be admitted, the force of Mr. Tait's argument in favor of the Porro must be greatly weakened, especially when we take into account the well-known fact that the repetition of the section upon the same subject is, because of the adhesion together of the former wound areas, in most cases practically extra-peritoneal and comparatively safe.

"Intra-Abdominal Tumors as a Cause of Cardiac Degeneration" is the title of a paper by DR. BEDFORD FENWICK, in which he calls attention to and sets forth the great practical importance of the subject, showing that many cases of death after laparotomy for large intra abdominal tumors, especially the cystic forms, may be explained by the presence of certain cardiac lesions which he has found to be very frequently present in such cases, these lesions being, in brief, a marked thinning of the right heart with fatty

degeneration and infiltration of the whole muscular substance. Sixteen cases of ovarian disease, one of omental cyst, and three of fibro-cyst of the uterus are reported where this condition of the heart was found at the autopsy. The author gives as the probable cause of the degeneration the pressure upwards of the tumor on the diaphragm, compressing the pleural cavities more or less; the direct and indirect pressure on the heart itself; the constriction upon its afferent, efferent, and nutrient vessels; and the impairment of the general health and power of locomotion of the patient consequent upon the new-growth. The main points of diagnosis are a very feeble, rapid, and excitable pulse; very dull and feeble heart sounds, especially marked over the apex; a very short systolic rise in the sphygmographic tracing; and a tendency to syncope. The possibility, or rather the probability, of the occurrence of this degeneration adds another to the already long list of reasons why we should operate early in cases of cystic abdominal tumors.

In the July number, over one hundred and fifty pages are devoted to an erudite paper on "Vicarious Menstruation" by ROBERT BARNES and to its discussion. Dr. Barnes holds that "the vicarious or supplementary relation of organs is a familiar fact in physiology, and a law that governs all rational therapeutics. Thus the skin and kidneys, the lungs, the liver, the glandular system, intestinal and other, are constantly doing reciprocal work. That obstructed or arrested menstruation should be supplemented or helped by other organs than the uterus is in strict accordance with the fundamental laws of physiology. There is a solidarity in the organism, binding the constituent organs into unity, and making them work with one consent. Reasoning from this basis, we shall be prepared to understand that menstruation is not simply a function of the uterus and ovaries, but a systemic function. We shall understand that it is a function the due performance of which is necessary to the well-being of the individual. Menstruation or an equivalent or substitute must be performed. If, then, menstruation is not carried out in the ordinary way by the discharge of blood from the uterus, an attempt, more or less successful, will be made: 1st, by ectopic discharges of blood; 2d, by discharges of mucus or serum, by leucorrhœa or diarrhœa; 3d, or the material in the circulation, and the nervous energy prepared, will be used up in other functions, as in the processes of gestation or lactation; 4th, by building up new tissues, as fat or other aberrant forms of metabolism; 5th, by effusions in the connective tissue, in serous cavities, or in the substance of organs; 6th, by exciting various neuroses, as hysteria, epilepsy, apoplexy." These propositions are illustrated by the recital of twenty-three cases showing various forms of "vicarious menstruation." The treatment should be to correct the constitutional derangement and to employ means to attract or direct the menstrual nîsus to the uterus.

Dr. Wilks, who had been invited to attend the meeting to discuss Dr. Barnes' paper, was very sceptical as to the occurrence of vicarious menstruation at all, and stated that all the so-called cases of that condition which had come to his notice had broken down on investigation, and that he should remain an unbeliever until he had witnessed an example himself or had heard of one from some trustworthy witness. Mr. Tait shared, to some extent, Dr. Wilks' scepticism, and felt that cases of alleged vicarious menstruation must be sifted with great care. Drs. Bantock, Aveling, Murphy,

Routh, Fenwick, Grigg, and Mutch agreed with Barnes in regard to the occurrence of vicarious hemorrhage, though some of them differed on certain minor points, while Drs. Edis and Mansell Moulin were sceptical and ranged themselves on the side of Dr. Wilks.

The discussion, though interesting, is by no means decisive, the views of Dr. Fenwick seeming the most plausible. He considered first the acknowledged fact that, before and during at least part, if not the whole, of a normal menstrual period, the vascular tension was considerably higher than at any intermediate time, that being the simple cause of the turgidity and rupture of badly defended uterine vessels; and every one knew how—were menstruation checked abnormally—the vascular fullness showed itself in flushing of the face, suffusion of the eyes, headaches, and other like symptoms; and how all these were relieved at once by a sharp hydragogue cathartic, simply because the blood pressure was thereby lowered. But suppose medicines were not given, then did not every-day experience teach that Nature *could* relieve the strain in her own way, just as she relieved the cyanosis of pulmonary or cardiac obstruction by an attack of epistaxis or hemoptysis? The vascular tension consequent on scanty or absent menstruation was simply a minor degree of the vascular tension found in a case of cyanosis. But, the tension being less intense, Nature required some help in effecting a blood extravasation, She found this in some broken surface, some injured mucous membrane, some ulcerated wound; and when accident or disease had produced this weak spot, very frequently it also produced coincidently a general depressent effect, which in its turn diminished the vessel tension which alone would account for the extraneous loss in these cases. It, therefore, was perfectly plain that, if in any given case amenorrhea be present, with undiminished vascular tension and exposed surface of weakened blood-vessels, it would be not only possible, but probable that a vicarious hemorrhage might take place; and further that, as the chances were greatly against the coincident occurrence of these three conditions in any patient, cases of vicarious hemorrhage would necessarily be rare.

BROOKS H. WELLS.

ABSTRACTS.

1. Wagner: Report on Gynecology (*Pacific Med. and Surg. Journal*).—The author refers to Emmet's new operation, and makes criticism of the fact that by this operation no attempt is made to lessen the size of the vulvar opening, although the vaginal canal is narrowed. He suggests, therefore, a combination of the old operation with the new. The criticism is very just, and the suggestion valuable. The same criticism and suggestion have been made by Mundé (vide "*Minor Surgical Gynecology*," 1885, page 507), and we have frequently had the opportunity of seeing him perform the second operation after having narrowed the posterior vaginal wall by Emmet's recent method, in order to make the

vaginal outlet less patulous, both for the comfort of the patient, and, a by no means trifling reason, for the satisfaction of the husband.

E. H. G.

2. Winiwarter: The Curability of Cancer through Operation (*Wien. Med. Woch.*, No. 50, 1885).—Whilst this paper does not consider cancer from the standpoint, in particular, of the gynecologist, its data are, nevertheless, of interest to him as well as to the general surgeon, and are, therefore, reproduced here. A number of years ago, W. analyzed a large number of cases of cancer, and published his results, and, in the present paper, he reiterates his conclusions in reply to a communication of Albert's, wherein these conclusions are criticised. He assumes, in general, that if there be no recurrence three years after operation, the patient may be considered cured of the disease. Applying this test to mammary cancer, we find that of 143 cases only 8 could be considered cured. In case of carcinoma of the lip:

Of 58 cases, death from operation, 2 (3.4%).

“ 58 “ living with recurrence, or death from, 17 (29.3%).

“ 58 “ cured (under three years), 18 (31%).

“ 58 “ “ (after three years), 21 (36.2%).

The results in total number of cases of cancer noted by W.:

Discharged cured, or death from recurrence,			
or living with recurrence,	73 men,	70 women,	142
Discharged cured, eventual result unknown,	50 “	52 “	102
Discharged cured, and death from other disease before recurrence,	5 men,	3 women,	8
Discharged cured and remaining so,	66 “	38 “	104

TOTAL, . . . 193 men, 163 women, 356

Of the 104 cases belonging to the fourth class, there are 62 patients in whom there was freedom from recurrence for at least three years. Comparing this figure with the whole number of cases of cancer of the glands, skin, and mucous membrane, we obtain a curability percentage of 13.8%.

According to the statistics of Paget and Sibley, if cancer be not interfered with by operation, death is likely to ensue in from three to four years after beginning of disease. It would seem, therefore, at first sight, as though the same period of time should be allowed to elapse before considering a patient cured after operation. W.'s reason for claiming that the disease is cured if there be no recurrence in three years was deduced from a study of 91 cases of carcinoma mammæ. Of this number, recurrence took place:

Immediately after operation, 27.4%.

Within one month, 38.4%.

“ more than one month, 34.1%.

In other words, in two-thirds of cases, recurrence within a few months after.

From end of first to end of third month, . . . 16.4%.

“ begin'g of fourth month to end of sixth month, 3.3%.

“ “ seventh “ “ ninth “ 3.3%.

“ “ tenth “ “ twelfth “ 5.5%.

After eighteen months,	2.2%.
" two years,	2.2%.
" three and one-half years,	1.1%.

The conclusion to be drawn from these figures is: In the large proportion of cases of carcinoma mammæ, recurrence obtains, in 82.4%, within three months after operation, whilst after the first year, in only 5.5%. Therefore, if a patient remains free from recurrence for three years, cure is fairly assumed.

Billroth is far more positive, for he says, in substance, if after one year from operation there be no recurrence, we may be sure that neither recurrence through continuity nor through infection will take place, and the patient may be considered radically cured. W. further is of the opinion that, if recurrence obtains after three years from operation, the recurrent growth is not to be associated with the original, is not a secondary growth, but is rather a new local appearance of the disease in an organism predisposed to carcinoma.

E. H. G.

3. Schatz: The Development of the Vessels between the Placental Circulatory Systems in Case of Fetuses Developed from One Ovum (*Archiv f. Gyn.*, XXVII., 1).—The conclusions deduced from this elaborate paper: In order to understand the development of the vessels connecting the placental circulatory systems of fetuses derived from one ovum, it is necessary to learn all that is possible of the origin of the vessels proper to the placenta. The first radicles of the allantois stretch out over the entire inner surface of the serous sac. The resulting primal chorionic vessels consist of two layers—an outer, capillary, lying under the serous membrane, and subserving purposes of aëration and nourishment; an inner, made up from the remaining venous and arterial radicles. The two layers anastomose freely, and both spread into the chorion zone. In man, the future placenta border is distinct from the orifice of the ovum sac. According to its size and form occur the various placental shapes; further, through surface obliteration, to a greater or lesser degree, result the different forms of double placenta, and placenta succenturiata. Coincidentally with the obliteration of the greater portion of the outer (capillary) layers of the primal chorionic system, the greater part of the deep-lying afferent and efferent vessels also becomes obliterated, and thus, in man, the entire collateral circulatory system disappears. The form of the remaining and later-developing vessels depends on the form of the placenta, on the insertion of the umbilical cord, on the distribution and development of the chorionic villi. In case of one-ovum twins, the primal chorionic vessels originate, not from one, but from two allantoides. The resulting allantois remnant has, usually, the shape of a large circle around the ovum. The primal chorionic vessels interchange above the allantois remnant, and there is formed between these vessels a common receptacle for the afferent and efferent vessels. When, now, the heart of one fetus is weaker than that of the other, the above arrangement for equalization of the circulation prevents the destruction of the weaker fetus, indeed tends to equalize the circulation between the two. Later, when the conjoined primal chorionic system of both fetuses becomes obliterated, the changes in the circulation between the equator and the periphery vary but little if the umbilical cords are inserted symmetrically, and the changes are

the less radical the wider the points of insertion one from another. Frequently, even where the insertions are asymmetrical and the membranes are unequally distributed over the fetuses, the resulting changes are most evident in the placenta. The development of the fetuses will not be unequal because the placental valves will still tend to develop equally. The remnant of an arterial and venous system to be found on the placenta of one-ovum twins is simply the remains of the early intimate anastomosis we have traced. This remnant remains unobliterated because it serves the purpose of equalizing the circulation. Ordinarily there is only an arterial remnant, occasionally both venous and arterial, rarely only a venous or none at all. Its size and extent depend on the amount of equalization which has been required. The third circulatory system, composed of the double arterio-venous transfusion current *plus* the anastomoses, is usually symmetrical. When asymmetrical, this can be detected but rarely through injection of the blood-vessels. The anastomoses point most conclusively to the arrangement of the blood-vessels. The asymmetry can, but not necessarily, vary in amount inversely to the compensatory effect of the anastomoses. And this latter is the greater the greater its calibre and the shorter the way through it from one umbilical cord to another. (The lithographs accompanying this paper are of singular beauty.)

E. H. G.

4. Post : Kolpohysterectomy for Cancer, with Tables Comparing its Methods and Results (*Am. Journ. Med. Sciences*, January, 1886).—

Dr. Sara E. Post herein presents the latest and most reliable statistics, to date, of this important operation. A large part of her paper is devoted to a historical sketch of the operation, and to a brief statement of the *modus operandi* preferred by various gentlemen. We reproduce here only the statistical data. In Table I. are recorded every reported case of kolpohysterectomy, 341 in number, and it is from this figure that the further data are drawn. The earlier statistics recorded prove that the mortality from the operation increased during the early years of its performance. This P. is able to disprove, the discrepancy arising from the fact that many of the earlier operations were not reported until after the publication of the first data. From P.'s researches it is apparent that the total average mortality has steadily decreased, from 37% in 1880, to 27% in 1881 and 1885 conjoined. The same steady improvement is shown by the mortality record for separate years, as is exemplified in the following *résumé* of her tables:

	Number.	Died.	Rec.
Total operations before and during 1880,	30	11	19
mortality 37%.			
“ “ reported in 1881, 1880,	64	20	44
mortality 31%.			
“ “ “ in 1882, 1881, 1880,	137	40	97
mortality 29%.			
“ “ “ in 1883, 1882, 1881, 1880,	218	63	155
mortality 29%.			
“ “ “ in 1884-5, 1883, 1882, 1881,			
1880,	341	93	248
mortality 27%.			

The record of a single operator is also of interest: Prior to 1881, Billroth lost 3 out of 6 cases, subsequently 1 out of 6. Schröder, on the contrary, prior to 1881 lost 1 out of 8, and subsequently 6 out of 20. In 1881, Olshausen operated 6 times with success; in 1882, he had 6 deaths out of 17 additional cases; in 1884, 10 further cases, with 1 death. In 1883, Fritsch lost 2 out of 17; in 1884-5, he had 17 additional cases, 0 death. Staude has had 16 cases, 0 death.

The next topic of interest is the mortality following the individual method of treating the wound:

						Mortality.
Closed peritoneal wound—supravag. wound open or closed,						28%.
Open	"	"	"	"	"	23%.
"	"	"	"	"	closed,	27%.
"	"	"	"	"	" (perit. sewed	
					to vag.),	18%.
Total No. cases supravag. wound closed, 141						21%.
"	"	"	"	"	open and closed, 222,	22%.

A deduction from these figures is: Complete closure of peritoneal wound is no obstacle to success, but it is also not essential to success. Apparently, complete closure requires especial precautions or else skill, as a high mortality has generally occurred where it has been attempted. As for the vaginal wound: we should either leave it fully open, drain it, or else seal it by covering with peritoneum. The weight of evidence is, at present, in favor of the latter method.

The question of recurrence is deduced from 29 cases, of which number 18 were well at the end of about two years. This deduction applies to cases operated upon previous to 1882.

The next table shows the total number cured compared with the results of single operators, or other methods of operation, and of other operations for malignant disease. It is as follows:

	Utilized No. of Cases.	Survived operation.	Per cent of survivors who remained well.
Kolpohysterectomy,	137	97	20.
" Schröder, .	12	9	33.
" Olshausen, .	23	16	44.
" Martin, .	19	16	50.
Vag. and supra-vag. amputation,			
(Schröder),	52	47	32.
Galvano-caut. amp't (Pawlik),	136	126	21.
Amp. with hot iron (Schröder),	13	12	42.
Ext. of breast (Volkman), .	131	121	15.
" " (Rose),	—	—	15.
" " (Billroth),	—	—	14.
Tot. ext. for cancer (Billroth),	448	—	23.
Ext. of tongue, pharynx, rectum,			
(Kocher),	25	—	26.
Ext. of tongue (Billroth),	—	—	17.
" " rectum (Rose),	—	—	12.4
" " kidney for neoplasm, .	33	13	—

[For the sake of completeness, we would add to this table Baker's

(Boston) statistics, from his operation (vide this JOURNAL, April, 1882), which have been reported since appearance of P.'s paper.]

Baker (high amputation), 10 cases—6 well 4 years after operation.

After stating the opinions regarding the operation, P. resumes as follows:

1. The results of kolpohysterectomy for cancer have progressively improved with increase of number of operations.

2. The total number of cases to date is, approximately, 341, with mortality of 27%. 222 cases were treated with open peritoneal wound, mortality of 22%; of 222 cases, 93 had supravag. wound covered with peritoneum, mortality 18%; and of the 93, 50 were operated upon during past 3 years, mortality 10%.

3. Of 97 cases surviving operations done previous to 1883, 20% are known to have been free from recurrence at the end of eighteen months or two years.

4. The latest results of this operation contrast not unfavorably with those of total extirpation of other organs for malignant disease.

6. The drift of opinion to-day is that kolpohysterectomy for cancer is a legitimate operation, subject only to the restrictions common to other extirpations for malignant disease.

E. H. G.

5. Doran: Notes on so-called Non-Ovarian Dermoid Abdominal Tumors (Reprint from Vol. XLVIII., *Medico-Chirurgical Trans.*).—D.'s object is to show that many dermoid cysts, which have been described as non-ovarian, are really ovarian cysts which have become separated from their pedicles. Especially is this the case in regard to cysts of great omentum. Dermoid cysts originating independently of ovary are very rare, and evidence is wanting that primary cysts of great omentum are ever dermoid.

The following case exemplifies the subject: In October, 1884, a patient, æt. 33, entered Samaritan Hospital. Six years before, had noticed a lump, a little to left of umbilicus, moving about in abdomen. Since that date had been pregnant, and lump had shifted to the right. Below umbilicus and to right was a faintly fluctuating tumor, extending towards right flank, passing an inch or two towards left, and not stretching abdominal walls between umbilicus and pubes, after the manner of ovarian cysts. Tympanitic resonance over tumor, especially over right side. Bantock operated by incision along outer border of right rectus. Surface of tumor was smooth, pale, and slightly shiny. Tapping revealed fluid like pus. Tumor intimately connected with great omentum and to ascending meso-colon. Tumor cut away. Right ovary drawn up and found healthy. Left ovary not searched for, since there were no grounds for suspicion at the time that the removed tumor might be ovarian. Tumor was found to be filled with hair and sebaceous material. No trace of either tube or pedicle. Both B. and D. suspected, after examining tumor, that it was a cyst of left ovary. Complete separation of pedicle of dermoid cyst is not unknown, and then it is usually to omentum that cyst adheres.

The second case recorded throws light on manner in which dermoid and other ovarian cysts become adherent to omentum. Patient was aged 42 and had borne a number of children. On opening abdomen, a small

unilocular papillomatous cyst of right ovary was removed. On examining great omentum, a soft, white body was found adherent to its posterior aspect, almost at level of umbilicus. A pedicle, about four inches in length, was traced to left angle of uterus, consisting of a dark-red cylindrical body which proved to be Fallopian tube; of a long fibrous cord, the utero-ovarian ligament, much hypertrophied; and of some long vessels of small calibre, the ovarian artery and veins. This soft body proved to be ovary, and was removed together with the portion of omentum to which it adhered.

It is probable, from these cases, that many cases of dermoid cysts of abdomen, recorded as non-ovarian, were probably ovarian dermoid cysts that had become adherent to other structures, and separated from their pedicles. Especially is this probably the case with many of the instances recorded by Lebert in his article ("Des Kystes Dermoides" etc., *Gazette Médical de Paris*, 1852). After reference to these and other instances, D. concludes: From the evidence of cases collected by Lebert as compared with the specimens upon which he (D.) bases his opinion, it is probable that non-ovarian dermoid tumors within abdominal cavity are extremely rare, although they do occur, the chief proof being their occasional presence in male patients; and, further, that no specimen of supposed dermoid cyst of great omentum can be granted as being primarily such, unless the pelvic cavity has been carefully searched and both ovaries accounted for.

E. H. G.

6. Ehrendorfer On Antiseptic (Local) Treatment in Obstetrics (with reference, in particular, to the results obtained in the Second Vienna Clinic in the three years, 1882-1884) (*Archiv f. Gyn.*, XXVII., II.).—To all interested in the results obtainable from the use of antiseptics in Obstetrics, this elaborate paper will commend itself, for E. has herein analyzed the methods in use at all the larger clinics, with a statement of the mortality statistics. We reproduce here simply the results from Spaeth's Clinic, where the antiseptic means depended on are carbolic acid and iodoform. The figures from this clinic are analyzed with great care, the history of each septic or otherwise fatal case being given in abstract. We reproduce the figures for each year separately:

In 1882 there were 2,898 confinements. Total corrected mortality for clinic 0.51%.

Since the puerperal mortality in any clinic will, in a measure, go hand in hand with the abnormalities and complications occurring, we note a few of these:

116 miscarriages; 35 twin labors; 16 face presentations; 59 forceps operations; 23 versions; 3 embryotomies; 2 decapitations; 1 Cesarean section; 12 craniotomies; 7 placenta prævia.

And further we note that, during this year, 211 students had the privileges of the wards, and were instructed in the touch and in delivery.

In 1883, there were 2,669 confinements. Mortality, 0.33%. Of complications and interference we note: 54 forceps; 90 extractions pelvic extremity; 24 versions; 21 manual removal of placenta or secundines; 8 craniotomies; 90 miscarriages.

During this year there were 381 students in attendance.

In 1884, there were 2,788 confinements. Mortality (corrected), 0.32% (including two Porro cases and one Cesarean section [uterine suture]).

The complications, etc., were similarly large, and the students in attendance numbered 324.

The figures for puerperal morbidity during these three years were: 1882, 4.31%; 1883, 3.59%; 1884, 3.08%. In particular, were the results for 1883 better than those for 1882, seeing that in the former year there were 390 operations against 340 in the latter, and the number of students in attendance was also greater.

(The above results, be it remembered, were obtained in a clinic in an old hospital, and where the material was largely used for purposes of instruction.)

E. then describes Spaeth's clinic, and formulates the antiseptic rules which are rigidly adhered to. (It seems profitable to briefly reproduce these rules here, since, in all probability, the good results obtained may fairly be said to depend on the antiseptics resorted to. And whilst we do so, we do not mean to imply that just as good results may not be obtained in private practice without such rules. Indeed we believe them unnecessary in private practice, where all that is requisite is thorough cleanliness, which may be obtained without antiseptics. There is a vast difference, however, between private and hospital practice.)

The rules in brief are: Before any vaginal examination, hands must be cleansed with soap and brush, and then dipped in from one to five per cent carbolic. Examining finger smeared with three per cent carbolized vaseline. Neither before nor after an examination is vaginal douche given, unless there be special ground therefor, fever and bad discharge, etc. After a normal, spontaneous labor, the external genitals are washed with one to two per cent carbolic. After intrauterine manipulation, the uterus is washed out with one or two litres warm, one to two per cent carbolic. After dead-born fetus (decomposed), or difficult instrumentation, an iodoform pencil is, in addition, used. Episiotomy wounds, if not deep enough for suture, are simply dusted with iodoform, and similarly slight perineal ruptures. During the puerperium, unless especially ordered, neither vaginal injections nor antiseptic compresses. As soon as the lying-in woman has elevation of temperature, she is isolated. Each ward is carefully disinfected when empty. In case of rise of temperature, if there are wounds of the outer genitals, vaginal injections, one to two per cent carbolic; if the lochia are bad-swelling, intrauterine douche twice daily, or else iodoform pencils. The douche is stopped as soon as the lochia become normal. Continuous irrigation never used. Iodoform freely on all wounded surfaces.

(At Spaeth's clinic, in brief, the puerperal uterus is not considered in similar condition to an amputation wound. The aim is to prevent infection from without, and this is attained by cleanliness, weak carbolic solutions, iodoform, and *leaving the patient alone* unless operative measures have been resorted to, or symptoms arise calling for the vaginal or intrauterine douche.)

A valuable summary of the literature of puerperal fever, and clinical reports bearing on this disease, are appended.

E. H. G.

7. R. Dohrn: A Case of Epispadias in the Female (*Ztschrft. f. Geb. und Gyn.*, XII., 1).—On account of the rarity of this deformity, the case is recorded. L. æt. 18, consulted D. on account of dribbling of urine. She was of healthy parentage, and there was no history of deformity in

her family. Since 16 years, the patient had menstruated normally, and without pain. Since the age of $1\frac{1}{2}$, had been troubled with dribbling of urine. In the recumbent posture could retain her water well, but, when upright, only for one or two hours. The patient's general configuration was good; her pelvis normal; the pubic bones were united, and of medium breadth. The external genitals were reddened, and, in places, excoriated from contact with urine. The labia majora were not prominent, and instead of a projecting mons veneris, there existed depression of the soft parts. The labia minora projected anteriorly with uneven border, and had the appearance, superiorly, of a cock's-comb. Above they were divided, as also the clitoris; this latter organ consisting of two symmetrical portions, right and left. Above each of these clitoris-halves existed a band of mucous membrane—the divided preputium clitoridis. At the site of the normal junction of this organ was the opening of the urethra, a wide, funnel-shaped opening, patent for the little finger. A catheter passed for 3 cm. through a relaxed sphincter into the bladder. The hymen and vagina were virginal, the uterus small and movable. The position of the urethra typifies the case as one of epispadias. In the recorded case, the perineum was very broad, measuring 5 cm. from the commissure to the anus, and it is in this fact that D., in accord with Thiersch, seeks the explanation of the cause of the deformity. Where the perineum is developed early and broad, the site of the sinus urogenitalis and later of the meatus urethræ is advanced forwards, and in the female fetus the development of the corpus spongiosum is not so great that the urethra can be pulled downwards, and the union of the clitoris take place above the meatus.

To relieve the young girl of her distressing symptoms, D. operated as follows: He dissected off a three-cornered flap, the apex of which lay at the mons veneris, and the remaining angles out beyond the two clitoris-halves. The preputia clitoridum were also freshened, and brought together by suture. There was good union, and the meatus lay in its normal place below the clitoris. The patient slowly improved in her ability to retain urine, and was being subjected to electricity to improve the tone of the sphincter vesicæ.

E. H. G.

8. G. Winter: On Immediate Extraction after Version (*Ztschrft. f. Geb. und Gyn.*, XII., I.).—In the case of transverse presentations, the teaching in the majority of the text-books is to perform combined version as soon as the cervix is passable for two fingers, and then leave the case to nature. W., on the contrary, is convinced that the safest method for both mother and child is to wait for complete dilatation, and then to perform version and deliver at once. To test the question, he has utilized 310 transverse presentations occurring in the service of Schroeder, purposely considering simple cases alone, without such complication as placenta previa, etc. The general teaching referred to above is, of course, mainly applicable to cases where there has been premature rupture of the membranes. Where the membranes are intact, waiting is usually agreed upon as being the proper policy. Now W. believes that, even in cases where there has been premature rupture of the membranes, it is better both for the mother and the child to wait for complete dilatation before resorting to version.

The reasons given for not waiting in case of premature rupture are, mainly: 1. The fear of the death of the fetus, and 2, the fear of increased difficulty of version. To look at these questions in the light of W.'s experience: In twenty-four cases of contracted pelvis, where, the fetus being transverse, there had occurred premature rupture of the membranes, a living child was delivered:

After an interval of				1 to 10 hours,	4 times.
"	"	"	"	11 to 20	6 "
"	"	"	"	21 to 30	7 "
"	"	"	"	31 to 40	3 "
"	"	"	"	72	1 time.
"	"	"	"	96	2 times.

In only one case did the fetus die after an interval of six hours, and here no cause of death could be detected. It is evident, therefore, that simple premature escape of the waters does not influence the prognosis for child.

As a consequence of delay after rupture of membranes, tympanites uteri may set in. In sixty-four cases of the kind collected by Staude, only two children were born alive, and of thirty noted by Hofmeier, only four. W. noted four cases out of his 310, fatal to child in each case. Such a complication, therefore, is of extremely bad prognosis. But this complication need not ensue if the accoucheur insists on the patient lying quietly in the dorsal position, and prevents frequent examination, for then the air cannot enter the uterus. This complication then, being extremely rare and preventable, the fear of its occurrence need not cause us to interfere hastily in the interest of the child.

Another possible consequence of premature rupture of the membranes is the onset of infectious fever. Of W.'s 310 cases, in only eight was rise of temperature to any extent observed, and these cases teach that the fever alone does not injure the fetus, and that ordinarily the mother, notwithstanding, makes a good recovery.

A further cause of fetal death after premature rupture of the membranes is stated to be the onset of energetic pains, whereby the fetal circulation is interfered with. This only holds true for the period after full dilatation has been obtained. Of W.'s 310 cases, fetal death from this cause occurred five times, but not once during the period of dilatation. Again tetanus of the uterus, it is said, is likely to set in and kill the child. Of W.'s cases, there were five of this nature, and in all the fetus died. But then tetanus uteri is an anomalous complication which never spontaneously appears in the dilatation period, but is usually evoked by, as happened in W.'s cases, the administration of ergot, or by repeated attempts at version.

To pass now to the fear of greater difficulty in version on account of the delayed operation for which W. pleads: In 195 cases of version, delayed, in certain cases, as long as twenty hours after rupture of the membranes, in not one was there any special difficulty in the operation, and only three of the children were dead.

From the above considerations, in particular, W. holds it proved that, whether membranes are intact or not, version should be delayed till the cervix is dilated. He next considers the question as to whether version

should be followed by immediate extraction or not. He favors the first method, and the figures he offers for both methods are:

Version (cervix dilated) and immediate extraction, two per cent dead fetus; version (cervix not dilated) and delayed extraction, fifty per cent dead fetus. The difference in the fetal prognosis, therefore, is so enormous that version followed by immediate extraction should always be preferred.

In general, the indications for earlier version are the following complications: Placenta previa, prolapse of the funis, beginning infection during labor, beginning intrauterine asphyxia of fetus, great distention of the lower uterine segment, ineffective and weak pains.

The following general conclusions are drawn by W. from his study:

1. Version and delayed extraction is a teaching dependent on the erroneous belief that the artificial (through version) foot presentation carries the same prognosis as the natural foot presentation.

2. The teaching of early version in cases of premature escape of the waters is dependent on the double fear of death of the fetus, and increased difficulty in version in case of delay.

3. In case of premature escape of the waters, the fetuses do not die from this cause alone, but only in case tympanites uteri, or tetanus uteri, or violent pains set in.

4. Version, in case of delay for dilatation, is not rendered more difficult; it is only in the expulsion period that version becomes difficult; the passive contraction of the uterus does not render version difficult; tetanus uteri is a specific pathological factor which is always preventable.

5. In normal cases, the fetuses are surely saved by version and immediate extraction.

6. Waiting after early version is most dangerous for the fetus; the fetuses usually die intrauterine, and may only occasionally be saved by timely extraction.

7. *In case of intact membranes, and in case of non-intact, version should only be attempted when it may be followed at once by immediate extraction.*

8. There are special indications which call for early version, and these in the interest of the mother.

9. In case of head presentation, the same rules, *mutatis mutandis*, hold as in transverse presentations.

E. H. G.

9. Heilbrun: A Contribution to the Subject of Nephrectomy (*Centralbl. f. Gyn.*, No. 1, 1886).—Gross' latest statistics from nephrectomy give a mortality percentage of 44.63%, nearly similar to Czerny's result of 44.4%. Of the 233 cases collected by Gross, in twelve the indication for operation was fistula of the ureter, with recovery in nine, or a mortality of 21.27%. H. reports at length, in this paper, two cases of nephrectomy where Fritsch extirpated the healthy kidney for, respectively, uretero-vaginal and uretero-uterine fistulae.

Case I.—O., æt. 41, five deliveries at term, one ended by perforation and cranioclasty. Soon after this confinement, complained of dribbling of urine in any position of the body, especially in the dorsal. Internal examination revealed deep left laceration of the cervix. No vaginal fistula evident. Uterus small, not very movable. The bladder was in-

jected with a warm salicylic solution, and the fluid trickled out of a funnel-shaped depression in the left laceration. Diagnosis of uretero-vaginal fistula. The cicatricial tissue in the rent was incised, and, after a number of attempts, a Pawlick's catheter was passed into the ureter, and a small amount of urine withdrawn. Nephrectomy was decided upon and performed July 2d, 1885. A cushion was placed under loins to make the space between the twelfth rib and iliac crest prominent. Operation after Simon's method was performed, and the shelling out of kidney from its capsule was not difficult. The kidney was drawn up, and a double ligature passed around ureter and the vessels. The ligature ends were brought out at the wound. In order to forestall slipping of the ligature, a portion of the kidney was left on the pedicle, and this was seared and dropped. The wound-cavity was irrigated with carbolic, and closed above and below; in the centre a strip of iodoform gauze was placed. No drain used. The operation lasted twenty minutes. The ligature was removed on the twenty-sixth day. There was but little rise of temperature, and patient was discharged cured. Examination of the removed kidney revealed appearances of an acute nephritis, possibly resulting from the frequent sounding of the ureter. Six months after, the patient was well.

Case II.—W., æt. 25, was admitted in April, 1882. Under treatment for three years. One delivery, two years previously, by forceps. Puerperium accompanied by chills and high fever. Soon after delivery there appeared dribbling of urine, although she could retain her water. Local examination revealed intense erythema of the external genitals. The vagina without cicatrix, no vaginal portion of cervix, uterus not to be felt by conjoined manipulation, but by rectum the rudimentary organ was detected. Speculum introduced, and milk injected into the bladder. No flow into vagina of milk, but from a depression in the right vaginal vault a small quantity of urine trickled. Into this depression the finger could be passed, but the sound could not be made to enter the ureter. The possibility was that the ureter opened into the uterus, and the diagnosis of uretero-uterine fistula was made. In order to relieve the patient, the attempt was made to establish an artificial vesico-vaginal fistula, and below this to perform kolpokleisis. Sixteen times were these operations performed, and each time after union of vaginal walls the patient had great bearing-down pain, the union yielded, and the urine again dribbled from the vagina. Nephrectomy was decided upon, and the artificial fistula closed without difficulty. Same lumbar operation as in Case I., same after-treatment; recovery after slight erysipelas of wound. The extirpated kidney was sound.

H. makes the following remarks on these cases: As to etiology, in the first case, the ureter had doubtless become adherent to the cervix as the result of a parametritis, and later the fistula become established. In the second case, the instrumentation during labor was likely enough at fault. The various methods proposed for the cure of ureter fistulæ are then stated, and the lumbar incision given the preference over laparotomy, for the reason that the kidney, not being enlarged, may usually readily be removed through the twelfth interspace. Occasionally, however, as in Case II., it may be a difficult matter to reach and remove the kidney from lack of room, and here it may be necessary to prolong the incision

by cutting one centimetre into the sacro-lumbalis. To resect the twelfth rib is not possible, owing to the nearness of the pleura. A practical point in the after-treatment is the advisability of not irrigating the wound. This may excite hemorrhage or dissect up the peritoneum. Nephrectomy, being not a dangerous operation, should be performed in every case where a direct repair of the fistula is impossible.

E. H. G.

10. Engelmann: A New Method of Treatment in Uterine Disease (*Virginia Med Monthly*, January, 1886).—At the annual meeting of the St. Louis Obstetrical and Gynecological Society (November 19th, 1885), E. described this method, although he stated that he had not fully perfected it, and claimed it as his own. The treatment was based on the application of impalpable powders to the mucous membrane of the uterus and of the vagina, but could not be called complete as yet. E. stated that he had long since abandoned, as a routine measure, the use of strong intrauterine applications, and strongly criticised the common custom of mopping the uterine cavity with solutions of nitrate of silver, iodine, iodized phenol, and the like. Since 1873 he had endeavored to replace these fluids by powders (tannin, iron, nitrate of silver). He had found gelatin pencils an excellent means of intrauterine treatment. In the majority of cases, however, his main reliance was on powders applied to the cervix by cotton or the insufflator. Thereby he treats the mucous membrane through the uterus. He is careful so to place the medicated cotton as to rectify any malposition of the uterus. He uses the glycerin tampon but little, preferring other means to this "filthy" method. The dry method, for which he claims originality, is clean and comfortable to the patient. Through the adoption of this method, many a patient will be spared the wearing of a pessary. He hopes soon to devise a method of applying the powders to the uterine mucosa. Although he was aware that dry cotton and powders had been used of old, never had they constituted the main-stay of the gynecologist, and no such method had ever been advocated or published.

[There are a number of points in the above extract which are open to criticism. Without any desire to detract from E.'s claim to originality, we would state that the method he describes is not by any means a new one, for it has been practised, here in New York at least, for many years, and will be found described, in particular, by Mundé in his "*Minor Surgical Gynecology*," 1885, in numerous places (*vide* pp. 193, 195, 221, 225, 252). Personally, we frequently apply powders (tannin, iodoform, alum) to the vagina and cervix, taking the precaution to pack the cotton in such a manner as to give due support to the uterus. Further, as to E.'s condemnation of glycerin, we do not believe that any uterine or periuterine disease, accompanied by congestion, can be effectually treated without recourse to this agent. It is no objection to this agent to state that it causes a filthy discharge. The agent is used in order to deplete, and the resulting discharge is simply evidence of beneficial depletion. As to intrauterine application, we believe that E. is eminently correct in deprecating their abuse. In simple catarrhal endometritis, we may well dispense with them, and cure the congestion of the endometrium by removing the cause—be it subinvolution, uterine displacement, laceration, or simple erosion of the cervix—through operation or powders to the cervix or judicious tamponade. There are forms of endometritis, however, where

cure is impossible without resort to intrauterine applications, endometritis hyperplastica, for instance, and in these cases, the cervical canal and internal os being widely open, it seems to us that it matters little whether the agent be applied on a cotton-wrapped applicator or insufflated. It is not so much the method, as the agent chosen, which is going to benefit the patient. We do not believe that E. can cure a case of the kind by any number of powders simply placed in the vagina. The disease is local, intractable often, and requires, very often, most active local treatment.]

E. H. G.

11. Th Wyder (Berlin): The Diseases of the New-born. By RUNGE (Dorpat) (*Centralblatt f. Gyn.*, No. 2, 1886).—(This work of Runge's is reviewed at length by W., and, on account of the valuable and interesting points in the review, we essentially translate it.) The work is particularly valuable for the detailed manner in which numerous diseases peculiar to the first days of the new-born are described. It is a work not alone of value to the practising physician, but also from a medico-legal standpoint, owing to its clear and condensed style, and the illustration of the subject-matter by valuable pathological researches. The first chapter concerns asphyxia of the new-born. As to the causal factor of the first respiration of the fetus, Runge believes in the theory advanced by Schwarzfeldt, and criticises Preyer's theory that the first inspiration is simply the result of irritation of the surface of the body.

The observation of Porak, that frequently the administration of quinine to the mother results in the escape of meconium, the head presenting, without the birth of an asphyxiated fetus, requires, in R.'s opinion, corroboration at the hands of others.

The subject of the etiology and diagnosis of intrauterine asphyxia is exemplified by no new matter. It is important for the pathologist to remember that, even in cases of intrauterine death from asphyxia, the intestines may be found distended with meconium, and the lungs partially inflated. On account of their great practical importance, in connection with prognosis and treatment, R. describes with care the symptoms of simple and deep asphyxia. The diagnosis between the first and second grade of asphyxia is readily made by passing the little finger into the pharynx of the child. If the child reacts, the first grade exists; if not, the second. In the first instance, irritation of the surface of the body is recommended; in the latter, Schultze's swinging method. This latter R. warmly recommends as better than removal of mucus by catheterization. This method, however, must be understandingly applied in order to be effective. Where the details of the method are carefully followed, rarely will it not succeed in case of premature infants. At the end of this section, attention is called to the fact that Schultze's method is objectionable from a medico-legal standpoint, in that the lungs of a dead-born fetus may thus be filled with air.

Under the heading of asphyxia occurring after labor, the point is made that, at autopsy, pneumonia complicating atelectasis rarely, in R.'s experience, is found. Careful catheterization should, in case of premature infants, ever precede Schultze's method. The capital point is to prevent relapse into asphyxia through surface stimulation, stimulants, and warmth.

Chapter II. concerns the diseases of the umbilical cord. From an

anatomy-physiological standpoint, the pathologist should remember that the process of mummification of the cord is not dependent on any vital effect, but takes place independently of the life of the infant. It is a mooted point, according to R.'s observation, as to whether the time chosen for ligature of the cord has any effect on the strength and growth of the infant. Theoretically, as well as practically, however, the opportune moment is when pulsation in the cord has ceased, and the umbilical veins, therefore, have collapsed.

R. dispenses, in a measure, with the classic enumeration of the causes which prevent healing of the umbilical site. The salient point, according to him, lies in the question: Is the wound infected or not? If the wound heals after falling of the cord, whether quickly or slowly, without interference with the physiological inflammation, the process may be called normal. In the majority of cases of great inflammation, we must explain this by recourse to an infectious cause. Every intense inflammatory process, therefore, setting in after falling of the cord, is noteworthy, and the usually resulting ulcer is to be treated by a resort to careful antiseptis. (Salicylic acid—starch powder.)

After reference to fungus of the cord, omphalitis (by which is meant infiltration of the abdominal parietes near the cord, and when this is pronounced, it is very dangerous), and gangrene of the cord, there follows an interesting chapter on the diseases of the umbilical vessels. In order to correctly understand the course of these diseases, it is necessary to remember that every case of umbilical arteritis and phlebitis begins as periarteritis and periphlebitis respectively. Differing from other authorities, R. considers arteritis as the most frequent and dangerous of all affections of the cord, and explains this on the ground of the greater amount of connective tissue around the arteries. In fifty-five autopsies of infants deceased from umbilical disease, in fifty-four arteritis was present, twenty-two times in connection with pneumonia, sixteen times with other evidently septic complications; only once did phlebitis exist, and here there also co-existed arteritis. R. was unable to detect in any of his cases the changes in the vessels of the liver which Birch-Hirschfeld so frequently describes, and whence he draws the inference that the veins are the carriers of the septic poison. It is further apparent from R.'s table that the changes resulting from arteritis are not found in the abdominal cavity, but in the lungs. Further, in no case did R. detect an extension of the inflammatory process towards the neighborhood of the bladder. The limit of the disease was ordinarily sharply defined below this region.

In regard to symptomatology, R. lays special stress on the frequent absence of marked symptoms, and on the unreliability of the diagnostic points brought prominently forward by Widerhofer, Bednar, and Henning.

As for the prognosis of arteritis, R. draws the following conclusions: Premature children almost always die; in case of full-term children, cure is possible. R. notes a mortality of forty-two per cent in premature infants.

In addition to the recognized etiological causes which cause infection, R. lays special stress on infection by ophthalmo-blennorrhoeal matter. As for treatment, prophylaxis occupies the front rank, and R. describes

in detail the various means whereby speedy mummification of the cord may be attained. There follows a description of umbilical phlebitis, and the points are made that this affection is far less frequent than arteritis, that the disease usually affects the whole venous system, that the symptomatology is more outspoken than in arteritis, and that death usually results.

A further subdivision of umbilical diseases are hemorrhages from the umbilicus, and these are divided into hemorrhages from the umbilical vessels before and after the separation of the cord, and from the umbilical wound. As etiological factors of the latter are mentioned: hemophilia, congenital syphilis, sepsis, and acute fatty degeneration. ■

Chapter III. concerns acute fatty degeneration of the new-born. R. has seen two cases, agrees with Buhl as to etiology, and concludes that in many cases it is a 'septic disease, following on, especially, umbilical disease. ‡

Chapter IV. is devoted to Winckel's disease, the cause of which is still very obscure.

Chapter V. considers the so-called puerperal fever of the new-born. Whoever, before reading R.'s book, was convinced that puerperal fever of the new-born was a disease *sui generis*, will now be convinced, by the clear reasoning and stubborn array of facts, that this affection is purely the outcome of septic affection of a wound. From R.'s observations it is apparent that placental infection and infection through the air passages are of the nature of hypothetical causes. It is also apparent that the assumption of infection through the milk is not warrantable. The umbilicus is usually the source of infection, and infection through the mucous membranes must be considered rare. In no case of septic disease in the new-born is investigation of the peri-cellular tissues of the vessels or the cord to be neglected. A cicatrized umbilicus does not preclude disease of the umbilical vessels.

Chapter VI. concerns icterus. From the researches of Violet, made under R.'s control, this affection is divided into icterus neogonorum and icterus ad neogonum. The former is physiological, the latter symptomatic icterus. After statement of the causal factors, R. discusses especially the first form. Without discussing at great length the various theories of origin of this form of icterus, R. states it as his opinion that it is hepatogenous, and one proof of this is the finding of bile in the pericardial fluid of icteric children. Since, from the latest researches, it is apparent that children with "physiological icterus" are more badly nourished than those without, R. concludes that in those intense forms of icterus which affect, in particular, premature children, the prognosis should be a trifle modified. The treatment consists in prophylaxis and rational treatment of the icterus. The first depends on not too tardy ligature of the cord, and on energetic treatment of asphyxiated infants; the latter, on careful regulation of the diet, minute cleanliness, and attention to warmth.

Chapter VIII. is devoted to mastitis. The etiology of mastitis is readily understood, since, according to R., the secretion from the breasts of the new-born may only quantitatively be differentiated from the normal lacteal secretion. On this explanation, both prophylaxis and treatment are self-evident.

Chapter VIII. concerns cephalematoma. R. considers the chief causes, aside from operative, to be: the readiness with which the slender blood-vessels of the new-born tear; the ease with which the periosteum may be lifted from the bones; and the hyperemia of the head resulting from pressure during labor. Uncomplicated hematoma calls for no operative interference.

E. H. G.

12. Imlach (Liverpool): On Pelvic Abscess (*Pacific Med. and Surg. Journal*, February, 1886).—This contribution to the subject of pelvic abscess is of great value. The writer takes the ground that an abscess in the pelvis, more than one in any other locality of the body, should be opened, emptied, and drained, because in the pelvis a collection of pus is not likely to remain localized, but may burrow freely, burst into the cellular tissue, perforate the peritoneal cavity with fatal result, empty into bladder or rectum. These possible results it should be the aim of good surgery to prevent by free incision and drainage. It should always be remembered, however, that, to cure a pelvic abscess, drainage is not always necessary. Aspiration will frequently suffice. (Two instructive cases are recorded where the abscess was exposed by laparotomy and then aspirated, and cure was immediate and permanent.) When drainage of the abscess is aimed at, the peritoneal cavity ought not to be opened. In suitable cases, I. considers it safe to open up the inguinal canal, pass a probe along the swollen round ligament into the abscess, insert a glass or rubber drain-tube, and thus a large cavity may be drained without fear of peritonitis. Where an abscess seems to point in the inguinal region, its tendency is not to burst, but to extend toward the anterior iliac spine. Constant poulticing will frequently not make such an abscess open, but the incision just described will efficiently drain and cure the case. (Cases where this method was resorted to are noted, and in one the result was satisfactory, although unsuccessful aspiration *per vaginam* had been tried.) In case of an abscess occupying a large area of subperitoneal tissue, and reaching to the ribs, an incision above the anterior superior spine will shorten the suppurative process. Such an incision may be extended inwards along Poupart's ligament, or outwards above the iliac crest. By such an incision, likewise, perityphlitic and psoas abscesses are drained. Through only a small incision a large area may be drained. (Illustrative cases are appended.) Reference is then made to aspiration *per vaginam*, as also *per rectum*. (An instance of this latter procedure is recorded, ineffectual, and followed by laparotomy and eventual recovery.) When a large mass bulges down behind the uterus and cannot be felt in either hypogastrium, we may affirm that it is not an abscess in the cellular tissue. It may be pus within the peritoneum, but usually it is the distended Fallopian tubes which are felt. Here aspiration can only harm. Laparotomy and removal of the tubes are requisite. As for the indications for aspiration, I. makes no positive assertion. If the aspiration fails, it is better to make a free opening at once. Although I. has but a limited confidence in the use of the aspirator, where harm has resulted from its use, it is usually because the needle has been introduced into an ovarian or tubal abscess—"a procedure of infinite risk and never ultimately successful." "A free vaginal incision over the most promi-

nent part of the tumors with (or without) insertion of the finger and breaking up of adhesions has been recommended. I must confess I prefer almost any other method. The tumors which, by their vaginal prominence without abdominal swelling, suggest this treatment are either pelvic hematoceles or other tubal disease, and to make a free opening into them through the vagina is to court fatal peritonitis." (Herein I., we believe, is in error. A pelvic abscess may bulge posteriorly to the uterus and not be felt through the abdomen, and still be safely opened, the cavity curetted if need be, and the opening enlarged by the finger. See, in this connection, Mundé on Pelvic Abscess, this JOURNAL, February, 1886. We further believe that free opening, evacuation, and drainage of an hematocele *per vaginam* is by no means bound to result in fatal peritonitis. If the blood effusion be encysted, whether it originally was intra- or extra-peritoneal matters little; provided it present distinctly in the vagina it may safely be opened, cleansed, and, if need be, drained. (See abstract of Mundé's cases of hematomata, this JOURNAL, March, 1886.) As for the expectant treatment of pelvic abscess, I. does not favor it, for in the face of such treatment the patient's health is apt to become permanently injured. "The expectant treatment lives not on its own successes, but on the occasional failure of surgery in tuberculous subjects. By early opening of the abscess, caseation of the lumbar lymphatic glands may probably be prevented. When opening is long delayed, nothing will save the life of a tuberculous patient."

E. H. G.

13. Meniere: Treatment of Areolar Hyperplasia by Electrolytic Acupuncture (*Gazette de Gynécologie*, February, 1886). — In this affection it is M.'s opinion that ignipuncture and the galvanic current have given better results than any other method of treatment. He has himself frequently resorted to the negative caustic action of galvanism obtained through metallic needles driven into the cervix, and in this paper, he describes the method and states his deductions. He defines the disease as due to an excessive production of fibrous tissue, and therefore the aim of treatment should be to favor the absorption of this tissue, to diminish vascular congestion, thus diminishing the size of the organ and equalizing the circulation. Both ignipuncture and amputation of the cervix will accomplish this aim, but M. prefers the galvano-caustic acupuncture. To thus utilize the galvanic current effectively, it is necessary to possess a battery of at least twenty cells, and this should be connected with a milliampère metre. The needle is connected with the positive pole and plunged into the cervix to the depth of twenty to thirty millimetres. The negative pole is connected with a large chamois abdominal electrode. The current is passed for about ten minutes, with gradual increase in the cells, when the needle is withdrawn, and an eschar about five millimetres in diameter is found on the cervix. A fresh needle is taken and a similar eschar produced at another part of the cervix. Every eight days the process is repeated, and the treatment must be continued for two or three months. This method has the following advantages over the thermic or electro-cautery similarly used.

1. Rest in bed is not necessary, and cellulitis or ovaritis not likely to complicate.

2. The depth and the diameter of the eschar are under the control of the operator.

3. It causes great loss of substances—the only means of curing areolar hyperplasia.

M. has used this method fully one hundred times, and he can affirm that those patients who have submitted to treatment for at least six months, are, the large proportion, cured.

E. H. G.

14. Charpentier: Persistence of the Hymen, during Pregnancy and Labor, as a Cause of Dystocia (*Nouvelles Archives d'Obstétrique et de Gynécologie*, January, 1886).—The bibliography preceding this paper makes sufficiently evident the assertion that cases of this nature are by no means rarities. C. has himself seen three cases, and records his most recent case at length. The question proposed in this paper is, how can we explain persistence of the hymen, when ordinarily it is more or less torn at the first sexual intercourse? 1. There are certain women in whom the hymen is relaxed and easily dilatable, and here, if there be not great disproportion between the male and female organs, the penis may readily penetrate without rupture of the hymen. 2. The hymeneal opening is rarely central, but usually at the superior portion of the hymen. Often the hymen is double, being divided by a longitudinal or transverse band. If under such conditions the hymen be relaxed and dilatable, at the first sexual congress the hymen is simply pushed up, and later yields so that penetration is possible without rupture. 3. In still other cases, the hymen gradually yields, so that only at the end of weeks or months is penetration possible. 4. In other cases the penis simply invaginates the hymen as it were, copulation occurring in a vulvo-vaginal pouch of variable depth, according to the elasticity of the hymen and the vigor of the husband. 5. Finally there are cases where intromission never occurs, the semen being simply deposited at the vulva.

The treatment of this complication of labor is, of course, purely surgical. If the hymen will not yield to the pressure of the fetal head, the scissors, frequently the finger, can cut or rupture.

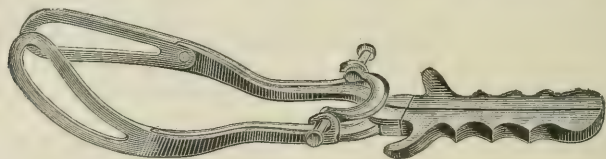
E. H. G.

15. Betrix: Vulliet's Method of Dilating the Uterine Cavity for Purposes of Inspection (*Nouvelles Archives d'Obst. et de Gynécol.*, January, 1886).—The aim of this method is to obtain permanent dilatation of the uterine cavity, thus allowing of the application of treatment under the eye of the gynecologist. The method is said to be easy, free from danger, but tedious. Dilatation once obtained, however, it persists for weeks and even for months. The steps of the method are: The patient should by preference occupy the genu-pectoral position, the perineum elevated by a large Sims. If the cervical canal be not at all patent, a moderate amount of dilatation is obtained by the steel-branched dilator. Small tampons of cotton (iodoformed), to each of which is attached a string, are now pressed beyond the internal os. At the first séance three to four are introduced into the uterine cavity, and are left *in situ* for from twenty-four to forty-eight hours. They are then removed, and replaced by a greater number, the object being to completely fill the uterine cavity at each visit. The uterus shows great tolerance for this tamponade. Beyond a little colic after the first tamponade, Vulliet has seen no untoward result. If it be desired to dilate more rapidly, lami-

naria tents may be substituted for the cotton. By means of these tampons the cavity of the uterus is gradually distended, and at the end of the treatment the vagina and uterus form a single cavity. Vulliet has used this method in a number of cases of cancer, in three cases of sessile polyp, in two cases of large fibro-miomata, and in one or two cases of endometritis. The time requisite for full dilatation is very variable, in some three days, in others one month.

E. H. G.

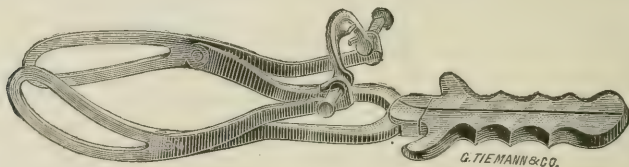
16. C. Braun: On the Manifold Utility of a Tri-form Forceps (*Wien. Med. Woch.*, No. 9, 1886).—In Carl Braun's clinic, the forceps generally used is of the Simpson pattern, modified in certain particulars by B. himself. Under ordinary conditions, this forceps has been found to answer every requirement; but in difficult and high forceps cases accompanied by more or less pelvic deformity, it has often been necessary to terminate labor either by version or craniotomy. For a number of years B. has been accustomed to resort in the latter class of cases to one or another modification of Tarnier's axis-traction forceps, and with such favorable results that he has himself, by certain alterations, converted the typical Simpson into an axis-tractor, and this forceps he describes in the present paper. B. has become convinced that through recourse to axis-traction living children may be brought through deformed pelves in cases where, in the absence of an axis-traction instrument, craniotomy would be requisite. B.'s tri-form forceps—as he terms it—is 36 cm. long, the blades being 22 cm. At the lower angle of each fenestra are perfo-



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FIG. 1.

rations where the handles are attached, making a double axis movable joint. The articulation is a perfect one, and the screws at the joints easily removable for cleansing. The hooks at the ends of the fenestræ



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FIG. 2.

handles are for the insertion of a stirrup-shaped metallic plate which serves to fix the blades. The instrument, when used as in Fig. 1, is practically an unaltered Simpson, and may be used in typical forceps cases. Where high forceps are indicated, owing to the movable joints, the pelvic curve of the instrument may be altered from 7 to 10 cm. during the adaptation of the instrument, and later, during traction, this curve may

be reduced at will. The increase in pelvic curvature of the instrument is gained by (Fig. 3) linking the fenestræ handles under the lock. (It is

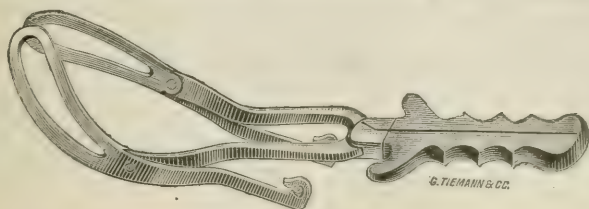


FIG. 3.

sufficiently suggestive from the cuts how the pelvic curve of the instrument may be altered at will by lifting the fenestræ handles above or below the lock.) After use, the instrument may be readily taken apart by

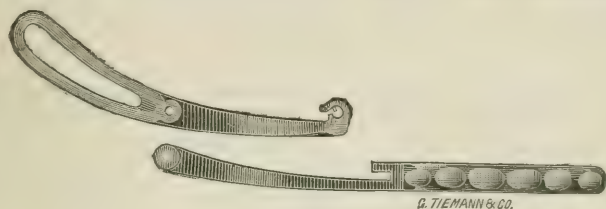


FIG. 4.

removal of the two screws which articulate the fenestræ to the handles, and carefully cleansed. In B.'s opinion, this instrument will answer on every possible occasion when forceps are indicated.

E. H. G.

17. Blanc: Acute Hydramnios (*Nouv. Arch. d'Obstet. et de Gynéc.,* March, 1886).—We record in abstract the following case on account of its rarity: C., æt. 23, of good family history and no acquired constitutional disease. One child at term, one miscarriage at six and a half months. In May, 1885, conceived for third time. In November, same year, acute bronchitis. The end of November, after working hard all day, experienced great pain in the lumbar region, extending to the abdomen. From this date the abdomen enlarged rapidly, and patient suffered from diarrhoea. She entered the service of Prof. Bouchacourt December 1st. Was badly nourished and weak. The abdomen greatly distended. Circumference at umbilicus 110 cm., above 98 cm., below 104 cm. Fluctuation very marked; palpation negative; fetal heart not audible; vaginal examination revealed no presenting part. Patient's urine loaded with albumin, no edema of lower extremities, heart hypertrophied—patient had hypertrophy of thyroid—respiration 60; temperature 40.3° C.; pulse irregular and 132; edema of the labia. In face of these extreme symptoms, labor was induced by perforation of membranes, and four litres *liquor amnii*, loaded with albumin, were obtained. Patient's condition immediately improved, and on palpation a presentation of breech determined. After a labor of moderate duration, a macerated fetus was delivered. Patient had an attack of septicemia, but eventually recovered.

The diagnosis of acute hydramnios is based on the group of symptoms—pain in abdomen, rapid increase in size of abdomen, accompanied by sudden rise of temperature, and increase of pulse rate and of respiration. Ordinarily, in reported cases of the kind, vomiting has been a prominent symptom. In the present case, nausea alone existed. As for the etiology in the present case, hypertrophy of the placenta was the sole tangible factor. This organ was very large, distended with blood, thick to an unusual degree, weight of 1,200 gms., and 15 cm. in its longest diameter. Excess of pressure on the placental and umbilical vessels will account for the hydramniotic condition.

E. H. G.

18. Obermann: Three further Cases of Cesarean Section after Saenger's Method (*Archiv f. Gyn.*, XXVII., 2).—This method has already been described at length in this JOURNAL, wherefore we simply note the saving of both mother and child in these additional cases. The total number of cases operated on by S.'s peculiar method, up to date, is thirteen, with nine recoveries. (The range of usefulness of Porro's mutilating operation is being slowly narrowed.)

E. H. G.

19. Krysky: A Case of Cancer of Mucous Membrane of Uterus (*Ztschrft. f. Geb. und Gyn.*, XII., I.).—The herein reported case presents the following points of interest: 1. Great hyperplasia of the uterus, in a nullipara, resulting from endometritis and superadded carcinoma. 2. A glandular cancer affecting the entire endometrium, and spreading throughout the entire body of the organ, was limited here, not having at all extended to the neighboring pelvic structures. 3. The patient, when admitted to the clinic, was highly cachectic, and yet by careful treatment she regained her strength. 4. The hemorrhage ceased, although the uterine cavity was filled with semi-solid purulent matter, and the cervical canal was patent for the sound. 5. Notwithstanding the retention of these purulent products in the uterus, there was no evidence of sepsis, and the temperature remained normal. 6. Without apparent dilatation of the tubes, the ampullæ were closed, and altered into thick-walled cysts.

In the reported case, owing to the excessively narrow vagina, kolpohysterectomy could not be performed. Freund's operation was resorted to, and the patient died in a few hours from shock.

E. H. G.

ITEM.

PROF. LUDWIG BANDL, of Vienna, has been appointed Professor of Obstetrics and Gynecology at the University of Prague, to succeed Prof. A. Breisky, who has been called to Vienna, to occupy the chair vacated by the retirement, through ill health, of Prof. Spaeth.

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AND
DISEASES OF WOMEN AND CHILDREN.

VOL. XIX.] DECEMBER, 1886. [No. 12.

ORIGINAL COMMUNICATIONS.

A NEW SYSTEM OF UTERINE MEDICATION.

BY

EUGENE C. GEHRUNG, M.D.,
St. Louis, Mo.

IN the July number of this JOURNAL I described a new instrument (an aspirating applicator) by means of which the uterine cavity can be washed and medicines applied to its lining membrane, apparently with perfect freedom from danger, without the necessity of previous dilatation of the cervix. I shall now try to make good my promise of a more extensive description of this and other instruments and their uses.

Up to a very recent date, I have been a pronounced opponent to the practice of intrauterine injections, in consideration of the many fatal and lesser accidents which resulted from it in spite of the greatest care and the many ingenious devices which have been brought forward to overcome these evil consequences.

Since I have used these improved means, my opinion and my practice have undergone a great change.

As a result of the studies which I made to understand the causes of the defects of pre-existing instruments, I learned, as others have before me, that the forcible influx and the defective efflux were the accountable factors; that the controllable force was wholly on

the influx side, with a total absence of control for the exit. Hence the double canula with the aspirating power attached to the inner or outflow tube, as described in my preceding paper, sprang into existence. This has since been considerably modified and improved by me, so as to be well adapted to the purpose for which it was invented.

Molesworth's "double canula and bulb syringe" is certainly the most perfect apparatus for intrauterine injections antedating mine that has yet come to my notice. Thomas¹ describes it thus: "When the India-rubber bulb is squeezed, the fluid which it contains escapes from holes in the end of the canula, and at once returns through another tube, which lies alongside of it. Then, as the compression of the bulb ceases, a vacuum is created which sucks back every superfluous drop." This may, at first sight, appear to fulfil every indication for which my instrument is proposed. Yet this is not so. Though Molesworth's syringe may, and possibly does, remove every superfluous drop of fluid, this does not prevent the damage which would probably be caused by the injecting force (which is the same as in any other apparatus), and not by the few drops of the fluid which may possibly be left in the uterine cavity.

This syringe lessens, but by no means obviates, the dangers incident to intrauterine injections. The effect obtained by the use of my instrument can scarcely be called an injection, as it merely *draws* a column of fluid through the cavity.

It is not my desire to argue here whether intrauterine injections, as a means of intrauterine medication, are admissible and useful, or the contrary. Opinions naturally differ, and in few fields more than gynecology, which goes far to prove that this branch is yet in its infancy. Some consider intrauterine medication of any description entirely useless, while others rely on it too exclusively; some put their trust in pessaries, other deprecate their use, etc. Yet opinions change with the advent and comprehension of new means, as fashions change with the coming season.

I hope, therefore, that the reader will give the instruments here to be described a fair trial, unbiassed by previous or preconceived opinions.

At the risk of incurring severe criticism by those who entertain contrary opinions, I shall proceed to describe the instruments

¹ "Diseases of Women," fourth edition, p. 272.

for, and practice of, washing and medicating the interior of the uterus, of constant irrigation, of the application of gases and of powders to that cavity.

Of course, what holds true of the cavity of the uterus is applicable to nearly all other anatomical and pathological cavities of the body.

As the reader will remember, the instrument consists of a double canula, a bifurcated outer, the point of which is perforated with many holes, and a straight inner, connected by its lower extremity with an aspirator syringe and provided near its upper end with a movable septum, whereby the outer canula is divided in its perforated end into two completely separated compartments. If the aspirator is set to work, the fluid ascends from the feeding vessel by means of a piece of India-rubber tubing through the outer canula, passes out through the holes below the septum, washes the cavity and returns through the holes above the septum, and thence through the inner canula finds its way into the syringe. By turning the stop-cock from a line with the canula by a quarter turn to the right, the syringe can be emptied through the outflow or waste-tube by pushing the piston home again. This process may be repeated at will. By this means a very gentle current of fluid may be passed through the womb. The emptying and refilling of the aspirator causes an interrupted current. This does very well for ordinary washing and medication, as the column of fluid is not broken by this act. Cases may and do exist where it would be desirable to keep up a *constant irrigation* of the uterine and other cavities, and for this purpose I have modified the instrument so that it may be used as above described, or as an irrigator.

The changes in the instrument necessary for the purpose of irrigation consist: 1st. In a certain arrangement in the stop-cock, by means of which the supply and waste parts of the apparatus will be brought in direct connection, while the syringe is completely shut up; 2d. In a piece of India-rubber tubing of about a metre in length, to be used in place of the shorter waste-tube, and, 3d. In a screw-joint between the stop-cock and aspirator, by means of which they can be taken apart.

To use the *irrigator*, introduce the canula into the uterine cavity, place the supply-tube in the fluid to be used, attach the syringe to the canula, and the long waste-tube, leading into a receiving vessel, to the syringe. Fill the syringe, turn the lever

of the stop-cock to the right, and force the contents of the syringe into the waste-tube, and repeat this process until the waste-tube is filled. It should be remembered that, the whole apparatus being air-tight, the column of fluid in the waste-tube is necessarily suspended, and nothing can flow out of it unless there is a corresponding inflow of air or fluid at the rear end. In fact the column is a continuous one from the supply vessel to the receiving vessel, with only a partition wall between the two halves, consisting of the metal of the stop-cock. By this provision the obstruction to a continuous current can be removed by turning the lever of the stop-cock by one stroke from the right, past the middle line, to the left. This throws the whole column into one from the supply to the receiving vessel without the intervention of the syringe. As long as the mouth of the waste-tube is held at a lower level than the supply vessel, a constant flow is established on the principle of the siphon. This will continue as long as the supply lasts, or until a break is made anywhere in the apparatus by letting in air. The flow will be more or less rapid in proportion to the greater or lesser weight of the column of the outflowing over that of the inflowing liquid.

It can easily be regulated, from a perfect standstill, or any given number of drops per minute, to a continuous current, according to the length of the waste-tube or depression of its mouth. Thus the supply necessary for a given time can be estimated with great exactitude. When the current is once established, the aspirator would be an unnecessary encumbrance, therefore the above-mentioned screw-joint, by means of which the aspirator can be detached from the stop-cock and removed.

General directions.—The introduction of the canula into the uterus should be done with care and gentleness, as this involves the only danger possibly connected with the apparatus, as far as I have become acquainted with it, and this is no greater than with the introduction of any other substance or body of the same size.

Its diminutive size, one-eighth of an inch, is well adapted to the calibre of a normal os and cervical canal, and enters with ease into a normally placed womb, as well as into an ante- or retroverted organ, but greater difficulty is encountered when it is to be introduced into an ante- or retroflexed uterus. To introduce it into an anteflexed womb, a tenaculum, or better, a vol-

sellum should be fixed into the *posterior* lip, and the canula with its convex surface be made to slip along the *posterior* wall of the cervical canal. For retroflexion, the whole process should be reversed, namely, the *anterior* lip should be fixed and, the convexity of the canula being turned forward, should be made to slide along the *anterior* wall of the canal. I have had the canula made nearly straight, as I considered, from my experience with this and other instruments, this slight curve more generally adaptable than a greater curve would be.

The syringe, or aspirator, should be held in the palm of the left hand and tightly grasped by the fingers placed on the flanges (which have been substituted for the rings since the last publication, and which will explain themselves), and held as nearly immobile as possible.

The glass face of the syringe should look upward and not be covered by the fingers, so as to be able to observe the beginning, amount, and character of the flow. The right hand moves the piston and regulates the stop-cock as directed above. For aspiration, the lever of the stop-cock must look towards the operator, and for emptying the syringe it must be turned to the right. Should this be neglected or mismanaged, the waste fluid would be sucked back into the syringe, and the contents might be injected into the womb. This would, of course, imply gross carelessness of the operators, but would prove much less harmful than would a priori be supposed.

For injections, as a rule, the fluids should be tepid, except by the express wish of the operator, when they may be more or less hot or cold, and as far as my experience goes, the temperature may be considerably increased or diminished with impunity. This should, however, not be done unless there is a special cause for doing it. Milder fluids should be used to begin, and the stronger be reserved for later at the same sitting or for later sittings. A mild current is also preferable at first.

Indications for the use of the instrument. Wherever the cotton applicator is indicated this may be substituted for it. If the cervical canal is wide and especially if this and the uterus be filled with tough mucus, it is especially indicated, and more particularly so where putrid or septic accumulations are present with undilated or but slightly dilated cervix. Where the contents of a limited space in any cavity are wanted for examination, the instrument may be used with or without fluid, *i. e.*, suction may

be practised without dipping the supply tube into a liquid. The current of air forces the contents of the cavity into the syringe, undiluted by fluids. The air passes as harmlessly as the fluids.

Contra-indications are, of course, the acute inflammations of the uterus and adnexa. 2d. Narrowing of the os or cervical canal, so that force should be necessary to introduce the canula. 3d. Pregnancy.

Cleanliness with the use of these, as well as of any other instruments, is of prime importance, and therefore I take the liberty to explain how to keep the instrument clean.

Fill the aspirator with fluid (hot soap-suds or a germicide solution) and inject a syringe-ful through each of the branches of the canula; this will force out its contents. Then remove the inner canula and clean it separately, because some impurities might be entangled in the screw-thread for the septum.

Should the apparatus when inserted refuse to work, then it is either clogged by tough mucus or blood, etc., or is not airtight. If the former cause, remove and cleanse it. If the latter, see that the joints are made to fit well, or that the supply tube is well immersed in the fluid.

In comparing this instrument with the cotton applicator, I find it a little more cumbersome, but much more useful and thorough than the latter, one introduction serving for washing and medicating the cavity, both of which are done much more thoroughly than by the latter. It is at least as safe as the cotton applicator, which latter I do not consider a harmless instrument, as it may act like the piston in a syringe, the uterus representing the tube, and force some drops of fluid, either contained in the uterus or carried by the applicator, into the Fallopian tubes, causing uterine colic, pelvic cellulitis, etc., and by the frequent insertions necessary cause abrasion of the mucous membrane, all of which is avoided by the former. Much of the pain heretofore attributed to the medicines has been caused by the friction, etc., of the applicator, as the same substances may be applied with the aspirator, with much less or no pain at all.

The uterine treatment being accomplished, the vagina, with or without pessary, with or without perineal laceration, may be washed out and bathed with medicines by removing the speculum, and permitting the canula to rest in this cavity after its withdrawal from the uterus, or by its direct introduction, and

working the instrument the same as in the uterus. The only additional precaution necessary is to close the labiæ by pressing them gently towards the canula in cases of lacerated perineum or gaping vulva. Not a drop of fluid will escape outside.

I hope I may be excused for describing here the method by which I have convinced myself, and by which the reader may convince himself, of the partly occult working of the apparatus. Slip a piece of India-rubber tubing over the front of the canula to just behind the perforations, and over this fit the neck of a drachm vial air-tight. Put a few drops of red ink or some other coloring substance into the vial, and dip the supply tube into water, then work the apparatus as if it were inserted into the uterus. It will then be observed how the water ascends gently into the bottle, takes up the coloring matter and carries it into the syringe with the stream. The movement of the fluids in the bottle is so gentle that no commotion is noticeable, while the coloring matter disappears and is collected in the syringe. The siphon action may be observed in the same way. If air is now admitted into the circulation by disconnecting any of the component parts of the apparatus, the fluid will be seen to rush out of the vial in both directions. By using for the experiment a glass tube one end of which is capped by the rubber top of a medicine dropper or a rubber ball, the other end fitted on to the canula as just described, and the apparatus put to work, it will be observed that each compression of the ball, imitating a possible contraction of the uterus under the effect of some irritating medicine, will cause a corresponding disappearance of the fluid from the bottle, and return of the same on releasing the ball. This shows plainly how safe the use of the apparatus will be, even under the most violent contractions of the uterus during its operation, while it directs the attention to one of the principal sources of danger from direct injections.

The reader will probably ask: Why, if for these experiments it becomes necessary to make an air-tight fitting between the vial and the canula, is it that a canula so small as this (one-eighth inch), or one of even half its size, will cause the fluids to flow through a cervix of almost indifferent calibre or even through the vagina? Answer: The vacuum produced by the action of the aspirator causes the lips of the cavity to close around the canula.

I shall not enter upon a description of the results obtained by

the use of this instrument in ordinary gynecological practice, further than to give a resumé of three cases of miscarriage that fell into my hands.

CASE I.—Pregnant ten weeks, fetid discharge for over a week, os slightly dilated, membranes protruding. Removed the partly decomposed ovum by detaching it in fragments from the cavity of the womb by the index finger. Washed and irrigated the uterine cavity daily for four days, with a warm 1 per 2,000 bichloride of mercury solution. The discharges remained sweet, and patient made a rapid recovery.

CASE II.—Six weeks pregnant. Large quantities of offensive discharge for about a week. Chills and nausea. Pains set in. Ovum tangible by index in the cervix. Removed it in one piece, and washed out the uterus, when patient felt refreshed. The following day I did not see the patient, and when I called on the third day, her eyes looked sunken, the complexion was sallow, the temperature elevated, the pulse increased, nausea, backache, and general discomfort present as on the day of the miscarriage. After the irrigation, all these septic symptoms disappeared as by magic. Recovery rapid and perfect.

CASE III.—Patient æt. 48. Four months' absence of menstruation accounted for by supposed menopause. Tumor the size of a six months' pregnancy. No fetal outlines tangible. Os admits index finger, but nothing except placental tissue could be reached. In short, I had to deal with a hydatidiform mole, every particle of which I had to tear away piecemeal from the friable mass and the uterine walls, with which, despite of twenty-four hours' racking pains, it was intimately united throughout. The same treatment with carbolic solution. Septic symptoms between irrigations, and result as in the foregoing cases.

For the treatment of a case of salpingitis with dilated uterine extremity of the tubes, I had a canula made of only one-sixteenth of an inch in diameter, and a few inches longer than the one formerly described, which I have passed frequently to the extent of about three inches into both tubes, and applied medicated solutions with beneficial results. A full report of this case will be reserved for a future publication.

If this instrument would not be applicable for anything else than early miscarriage, this alone would be a sufficient "*raison d'être*."

The uterus and vagina are not the only cavities in which these instruments can be beneficially used. All natural cavities, as the rectum, the bladder, the male urethra (the female urethra being too short and too easily accessible to other means), the Eustachian and Fallopian tubes will or may all form a field for

its application. Artificial cavities with coaptating lips, or lips that can be artificially made to coaptate, as fistulæ, deep flesh wounds, come all under the same heading. After laparotomy and thoracentesis, the cavities may be drained and irrigated with antiseptics, etc., by approaching the lips of the incisions around the instrument.

After puncturing an abscess cavity, pelvic or other, the instrument may be introduced through the canula after removal of the trocar, and the cavity be aspirated, and permanently irrigated by disinfectants, antiseptics, etc., precaution being taken to use a trocar canula that fits the canula of the aspirator, or make the latter fit into the former by artificial means, say a bit of India-rubber tubing, as described for experiments with the vial. In the same way, the canula can be introduced through any drainage tube of glass or India-rubber, and aspiration, washing, or irrigation can be practised at will.

The materials of which the instrument is at present constructed are not essential, as the canula may even be constructed of soft or flexible rubber of any given calibre with a suction syringe of any size or shape. The holes in the outer canula may be cut of any desirable size, and so disposed as to make it represent a drainage tube, and by attaching a suction syringe of any kind to the inner tube, all the advantages may be gained of the combined instrument. When so constructed, it may be used also for washing, etc., of the stomach.

At the meeting of the Chicago Medical Society, May 17th, 1886,¹ Dr. Edm. Andrews exhibited a "Rapid Evacuator for Litholapaxy." In the following discussion, Dr. W. I. Belfield remarked: "It possesses, however, one element of danger, namely, the possibility of undue distention of the bladder through sudden clogging of the exit tube." If aspiration were applied to Dr. Andrews' instrument in place of injection, this objection would certainly be overcome. It is, however, uncertain that the bladder would be able to withstand such a powerful aspiration as that necessary for washing out the fragments without collapsing upon itself and its contents. If so, then suction power might be beneficially combined with that of injection.

Gases may be applied as safely as fluids by means of this

¹ Journal American Medical Association, June 5th, 1886.

apparatus to cavities or canals by inserting the supply branch (B of the cut in the July number of this JOURNAL) of the canula without the intervention of the rubber tubing, through the cork of a partly filled can or bottle containing the substance to be used, as ether, chloroform, etc. The branch should only reach into the space over the liquid. If suction is now produced by the action of the aspirator, the fluid will rapidly evaporate into the vacuum formed in the space over the fluid, and the gas so generated follows the vacuum through the canula into the syringe, like the fluids in the former experiments. The gas may be allowed to remain in contact with the cavity by discontinuing the action of the syringe, or be made to pass in a current, if so desired, by continuation of the manœuvre. All substances which can be volatilized at a temperature not much exceeding that of the body can be so used. Here also the test with the vial may be used in place of another cavity. If a colorless gas like ether be used for the experiment, its presence may be demonstrated by emptying the syringe into a flame, when a continuous jet of fire will be seen to issue from it, the gas igniting as it is expelled. My experiments have been too limited to enable me to pronounce an opinion as to the remedial value of gas aspirations. Chloroform, ether, etc., may be useful in allaying pain or producing local anesthesia. By bromine, iodine, calomel, etc., vapors, alterative and other effects may be gained.

Experiments with the instruments under consideration proved to me that powders could also be propelled into cavities, but by no means to my satisfaction. I need not here enlarge on the many attempts that have been made to construct an apparatus that would deliver its contents into a closed cavity, and their almost complete failures. I soon understood the defects of the instrument, and by removing them one by one, the

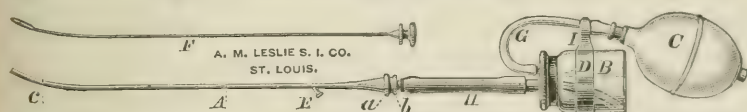
POWDER BLOWER¹

here to be described came into existence.

It consists, as may be seen in the cut, of a double canula, fitted so as to be easily taken apart for cleansing; an outer canula A, a little over one-eighth of an inch in diameter

¹ This has been favorably mentioned at the last session of the Amer. Med. Assoc., as I am informed by some gentlemen from the East, who have seen it used.

and ten inches long, with a branch *E'*, and a perfectly straight inner canula, reaching from *b* to *C*, nearly an inch shorter than the outer. The lumen of this is as large as possible without obstructing the space between it and the outer canula necessary for the return circulation of air. These canulæ are connected with the bottle *B* by a piece of India-rubber tubing *H*, mounted on a conical vulcanized rubber tip fitting into the inner canula, while the other end is slipped over a slightly-curved vulcanized rubber tube. The lower end of this is cut obliquely, to offer greater space and facility for the entrance of the powder, and reaches nearly to the bottom and to one side of the bottle. A smaller tube of the same material passes just through the vulcanized capping of the bottle, and forms a point of attachment for a piece of India-rubber tubing *G*, by means of which an air ball *C* is connected with the apparatus. The bottle can be disconnected from the capping for filling or for changing the powders, by a screw-joint. Around the bottle is a metallic ring *D*, terminating in a clamp *I*, into the grasp of



which can be forced the tubing *G* so that the position of the bottle can be governed by the hand working the air-ball. The inclination of the bottle to its side is intentional, so as to have as little deviation from a straight line for the propulsion of the powder as possible. The ball being compressed, the air passes into the bottle through the smaller tube, and drives the powder through the larger and the inner canula into the desired cavity, where the powder remains, and the air which propelled it, with some of the powder, returns through the outer canula and passes out through the branch *E*. Both canulæ are open at their points with no lateral perforations. If the inner canula were as long as the outer, the least trace of moisture encountered on introducing the instrument would make the powder clog the air-space between the two, and the instrument would be unsafe and useless. If too much moisture is met with, as the instrument is now constructed, it will clog the outer canula at its extremity, and the air with all the powder will return through the branch *E'*, by which occurrence the operator will be warned of the accident, and will remove the clogging. The outer canula

being open at its point, it would be dangerous to introduce it into a cavity, therefore I had a stylet *F* constructed with point olivaire, which is passed through the outer canula for introduction. When introduced, the stylet is removed, and the inner canula is made to take its place. Before using the powder-blower, it is well, if possible, to wash away the mucus, etc., by the aspirator canula, or to dry the cavity by the cotton swab. Since most powders have a tendency to become lumpy and therefore unmanageable, I have endeavored to find some means to keep them in a state of impalpable division. The only way in which I have succeeded, is by mixing them with a small quantity of lycopodium, which keeps the particles of the powder separate from each other. The presence of the lycopodium seems to be harmless in most cases, and useful in some. If anybody can suggest a better method, I shall accept his suggestion with thanks.

It may seem unnecessary to enter upon all these details. Yet all those who have used powders and powder-blowers of any kind well understand what unmanageable substances powders are.

The air-ball of the blower should be worked by frequent sharp and small compressions in preference to a continuous stream.

The apparatus must be kept thoroughly dry and clean in order to work well. To clean it, the best way is to wash the outer canula with a little wad of absorbent cotton, wrapped around the point of a piece of wire, and dry it thoroughly by dry wads. The inner canula rarely needs cleansing, as it is not exposed except to the contact of the powders.

For testing the action of the apparatus, the vial test as described for the aspirator canula is well adapted; or by inserting the canula into a long piece of India-rubber tubing which is closed by a ligature at one end, its mode of action in a canal like the male urethra may be tested. By withdrawing it slowly while working the ball, the tubing will be found full of powder.

That it gives satisfactory results in the uterus, vagina, and rectum I have practically convinced myself. For testing it in other cavities or canals, I have not had the opportunity.

I feel it my duty to repeat here that what has been described in the preceding pages is by no means theoretical, but based on

well-tried facts, except the treatment of certain surgical cavities which have been mentioned by way of suggestion to those whose practice runs more in that direction and offers better opportunities for experimentation than a purely private practice like mine.

I have used the washing and irrigation in the uterus, Fallopian tubes, vagina, rectum, and bladder with great satisfaction. Gases I have used in the uterus and vagina. Powders have been very satisfactorily used in the uterus, vagina, and rectum.

A CASE OF OBSTRUCTED LABOR CAUSED BY AN
ARTIFICIALLY SHORTENED FUNIS.

BY
J. W. KALES, M.D.,
Franklinville, N. Y.

I PRESENT this as a typical case of obstructed labor caused by an artificially shortened cord, and would ask if it is possible to diagnose similar cases correctly.

I was called January 25th, 1885, to attend Mrs. J. M. S., aged 17, primipara, whose labor had commenced several hours previous to my arrival. Upon examination, the soft parts were found well dilated, the pelvis roomy, presentation vertex, position L. O. A. Presenting part well engaged in superior strait. Pains strong and frequent. Patient cheerful, and every indication of a speedy and safe delivery. The visit, of necessity, was short, as I had three obstetric engagements that day. Returning in about one hour, I was much surprised that no progress had been made. The pains had continued strong and frequent. A careful examination revealed no cause of delay. The forceps were applied. Traction was made only during pain. Then it was observed that the fundus uteri became markedly depressed. When the head was drawn outside of the vulva, the funis was found coiled three times around the neck and deeply imbedded in it. Having removed the coils, the trunk was speedily expelled. The child was cyanosed, but was quickly resuscitated. The placenta was attached to the fundus uteri. The cord measured eighteen inches in length, and was attached to the centre of the placenta. This patient had danced all of the previous evening. The day following her confinement she left the bed and took up her abode on a couch. She made a speedy recovery.

In this case all the symptoms pointed out in the text-books were absent. There was no "elastic springing back of the child

with the cessation of pain," no "weakening of uterine contractions," no "hemorrhage." The depression of the fundus uteri was no positive indication of the nature of the obstruction. I distinctly recollect the case of Mrs. H. M. (whom I had previously attended), where, after many hours' delay, no cause of which being evident, the forceps were applied and strong traction made. The fundus uteri became markedly depressed. A second effort dislodged the child from its position, and nature terminated the labor without further aid. The cause of the obstruction was found to be due to tetanoid contraction of the middle uterine segment.

How shall similar cases be treated? Cazeaux recommends the forceps. When shall they be applied? If a positive diagnosis cannot be made, each case must be left to the operator's judgment. Experience has taught me that the fetus will endure much pressure provided it is not continued too long; also that recoveries are more satisfactory when the forceps are promptly used than in protracted cases, where "nature is allowed to take her course." I am satisfied that in this case the forceps saved the child's life.

CORRESPONDENCE.

A CORRECTION.

BY

A. MARTIN,

Berlin.

BERLIN, Oct. 10th, 1886.

Dr. Paul F. Mundé.

MY DEAR DOCTOR:—Many thanks for the report of your European trip, from which I gather much of interest to me. Permit me to reply to several of your remarks concerning my methods, in which I seem to have been misunderstood.

You reproduce two cuts which are intended to represent the method of amputating the cervix devised by Hegar and practised by me. As you may see in my book ("Pathology and Therapeutics of the Diseases of Women"), page 284, I employ neither this method nor that of Schroeder in a typical manner. The operation usually adopted by me occupies a middle ground between.

these two types, as I represent it on p. 286, and as my assistant, Dr. Langner, demonstrated to you in the cases operated on by him in your presence. I can but regret that my many engagements prevented me from showing you the operation myself. I hope your next, to me most agreeable and desirable, visit will occur at a more favorable period.

Your remark on the discision of the uterus performed by me might easily be misunderstood. May I remind you that I, on that occasion, as always when I do this operation in the presence of physicians, emphasized my preference for this division of the uterine wall over rapid or gradual forcible dilatation, because by the latter method I have always seen a lacerated wound, whereas the clean, smooth incision is immediately closed by sutures, and offers a most favorable prospect of speedy union.

The objection of leaving the pool of antiseptic fluid on the floor of the laparotomy room during second and third operations has been removed for some time, by employing a second thoroughly asepticized nurse to mop up the floor, for, of course, only properly aseptic persons are admitted into this sanctum.

Perhaps you may find opportunity to utilize these remarks. The three patients whom you saw on the laparotomy table made good recoveries.

With kind regards, yours,

A. MARTIN.

[The criticism of Dr. Martin on my report of his cervix operation (see my article "A Glimpse of Laparotomy in Europe," in the last September No. of this JOURNAL) is correct. My error was due to my having only Hegar's book, not Martin's, with me in the country after my arrival, when I revised the article. It seemed to me then that Hegar's cut answered for the operation which I had seen Martin perform. I append, for a complete comprehension of the differences between the operations of Hegar, Schroeder, and Martin, a description of all three, taken verbatim, with the cuts, from Martin's book.

As regards division of the cervix *versus* dilatation, I, in no sense, wished to criticise Martin's action, for his method was certainly rapid, efficient, and safe. I merely pointed out that he preferred it to even easy, rapid dilatation. And I am not so sure but that I agree with him.

It gives me pleasure to make this reparation for an accidental error, to a man from whom I received so much courtesy as from August Martin.

PAUL F. MUNDÉ.]

HEGAR'S, SCHROEDER'S, AND MARTIN'S OPERATIONS FOR EC-TROPIUM, HYPERPLASIA, AND CATARRH OF THE CERVIX UTERI. (*Martin's "Pathologie und Therapie der Frauen-krankheiten,"* 1885, pp. 284-287.)

"For the proper method of amputating the cervix we are indebted to Hegar, who, through his procedure, made possible its performance in the most perfect manner, and thereby placed under the full control of the operator the formation of the cicatrix

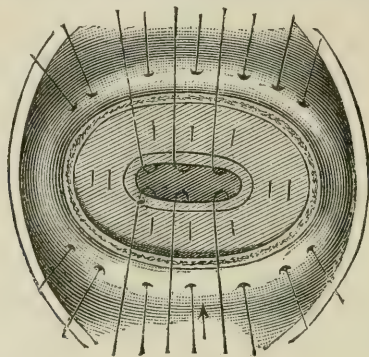


FIG. 141.

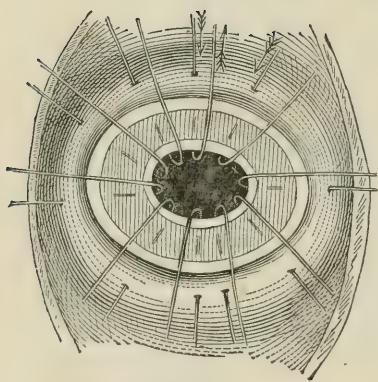


FIG. 142.

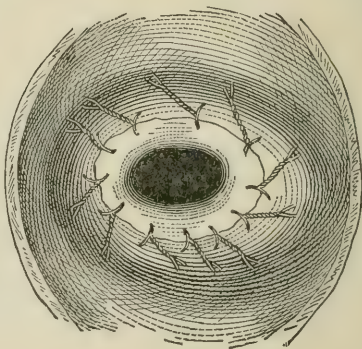


FIG. 143.

trix and the prevention of secondary hemorrhage. The steps of this method are: The uterus is drawn down as far as possible, and the cervix so exposed by means of the speculum as to be easily accessible. The cervix is then incised bilaterally as far as the vaginal insertion, and, according to the demands of the case, a more or less deep conical slice of the mucous membrane is removed from the posterior lip. Union is secured by inserting the sutures deep under the denuded surface, so that the cicatrix will be formed at about the level of the upper portion of the am-

putated posterior lip. The anterior lip is denuded and sutured in a similar manner, and finally the lateral commissures are united by deeply inserted sutures. The lateral commissures may be sutured either, as is represented in Fig. 141, through direct apposition of the borders, or else, as is shown in Fig. 142, through covering over with mucous membrane.

“This procedure of Hegar’s would certainly be a most perfect one, had he extended his incision through the mucous membrane of the cervical canal. This very essential modification we have derived from Schröder, who, after the above-described bilateral incision, separates the divided portions of the cervix, and, at the dividing line of healthy and diseased mucous membrane, makes a perpen-

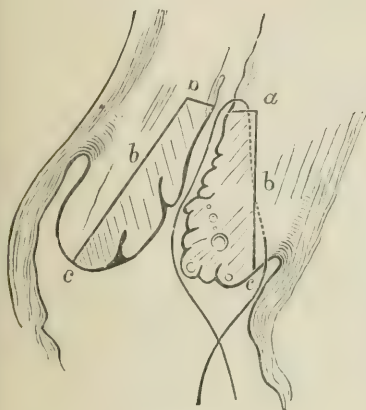


FIG. 144.

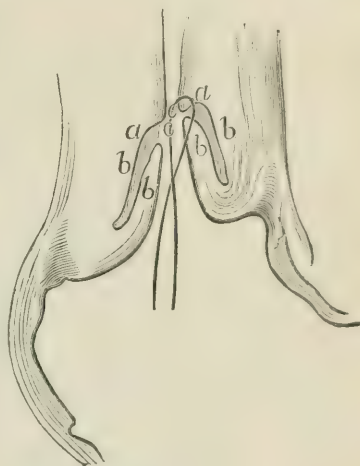


FIG. 145.

dicular incision through the cervix (Fig. 144 *a*). At the extremity of this incision, from the outside of the lip (from *c* inwards), he then removes whatever amount of tissue the pathological alterations in the individual case demand. Union is obtained through deep-lying sutures which bring together the remaining portion of the amputated lip (Fig. 145). After the anterior lip has been treated in a similar manner as regards the diseased mucous membrane, and the lateral commissures have been closed, the cicatrix resulting is of such a nature that the lower boundary of the stump is covered by the external surface of the cervix, and the lower border of the cervical mucous membrane lies quite deeply within the cone-shaped excavation, the influence of the vagina extending but little to it.

“ Those two methods, Hegar’s and Schröder’s, I endeavor to combine in amputation of the cervix, proceeding in such fashion as the necessities of each case demand. If the mucous membrane of the cervical canal be healthy, and this is very seldom the case, I excise after Hegar’s method; if the mucous membrane be diseased, I then remove as much of the diseased portion of the mucous membrane as is possible, and excise from the lip itself, including the wall of the cervix, as much as seems necessary for cure (Figs. 146, 147). The operation is thus rendered very simple and certain, and one which may be performed in a very short

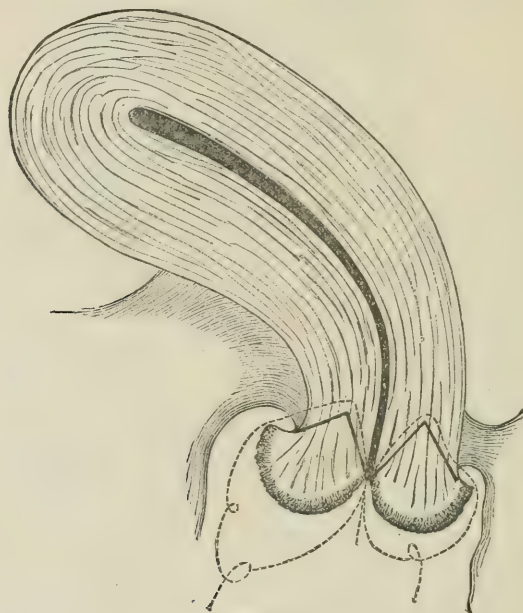


FIG. 146.

time by one accustomed to suturing. As a rule, I perform amputation in case of abrasion of the mucous membrane, seeing that chronic disease of the mucous membrane is such a frequent complication of disease of the parenchyma of the uterus.

“ I draw the uterus as far down as is possible, expose the cervix well through the speculum, disinfect the field of operation carefully, and incise the lips of the cervix down to the vaginal vault under a stream of some weak disinfecting solution. I then make a deep incision straight through the mucous membrane, at the level of the healthy membrane, and remove from the lip so much

as in the given case appears necessary. The sutures are at once introduced, and as far as the opening of the os has extended. The anterior lip is similarly treated, in order to accomplish which the forceps, which have been drawing down the uterus, must be applied anteriorly at the point of the reflexion of the vagina from the cervix.

“The lateral sutures are now to be inserted. The forceps are removed from the anterior fornix, seeing that the cervix may be better controlled through the sutures which have already been introduced. By these sutures one side of the cervix is to be

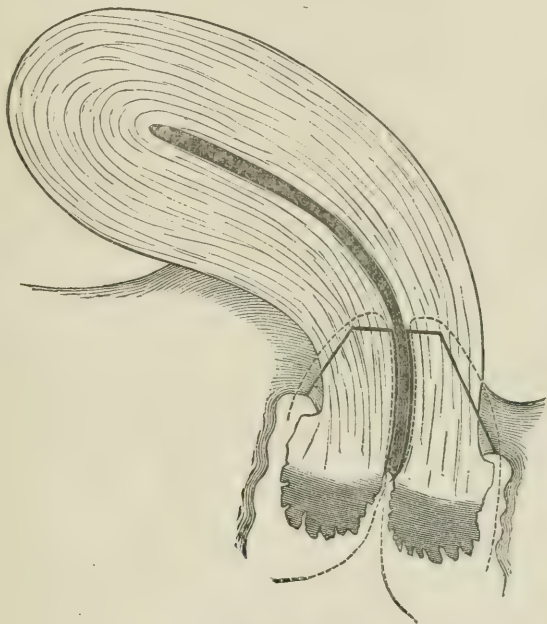


FIG. 147.

drawn down in the mid-line, and the sutures passed. And these sutures must be passed deeply and frequently lie very close together, since it is here that ordinarily copious hemorrhage may occur. In the same manner the other side is drawn down and sutured. As a rule, eight to ten sutures are needed for the anterior and posterior lip, and three to four at each side. As soon as hemorrhage has ceased, and the denuded borders of the vagina and the cervical mucous membrane have been carefully brought together, the sutures may be cut short.”

OBSERVATIONS ON PELVIC INFLAMMATION FROM DR.
SÄNGER'S POLICLINIC IN LEIPZIG.

TO THE EDITOR OF "THE JOURNAL OF OBSTETRICS."

SIR:—Your readers may be interested in hearing some of my experiences in Säger's Polyclinic in Leipsic. Dr. Säger is recognized by all gynecologists who have been associated with him or who know him through his scientific writings as a most painstaking and honest investigator. He is known to be one who never reaches his conclusions hastily, but who weighs every step of the argument before making it public. Hence it is that his pathological researches, as well as his deductions drawn from surgical cases, have become accepted facts—accepted, I mean, by the majority of logical minds in the medical world. It was a very great privilege to have the freedom of his polyclinic, which, though never large, was always interesting, both by reason of the instructive cases which came there for treatment, as well as for the discursive remarks illustrative of the condition under examination with which Dr. Säger occasionally honored those who were present. In recounting some of the daily work which came under my observation, I shall also embrace the opportunity which I have long sought, but which never seemed to come into harmonious conjunction with the necessary inclination, to comment upon certain conditions in so far as these conditions seem to be mooted questions either in regard to their etiology, their differentiation, or their pathology. Here, as well as in Berlin and Vienna, but especially in Vienna and Leipsic, I have very carefully examined many instances of perimetritis and parametritis, and not only so, but I have learned the life histories of these cases in about seventy-five per cent of all the women that I saw. Not until recently have I had any well-defined idea of the separate existence and clinical histories of these two diseases, and I confess to much stupidity in my ability to differentiate between them. Formerly I held to the belief that they were in reality but one and the same thing, or at least so closely allied anatomically and of such exact resemblance clinically that it was impossible in any given case to state with exactness which condition obtained, for then I could not conceive of any elaborate disorganization of the connective tissue, or, perhaps I should say, of any morbid process going on in the connective tissue without a consequent transfer-

ence to the peritoneum, by which it, too, should be involved in the same process, and conversely in regard to the peritoneum and its relations to the connective tissue. I held, with Emmet and others, and I was in an exceedingly goodly company, that the distinction was the empty fashioning of men's minds and that there was absolutely no difference. The more deeply that I went into the study of the subject the more entangled I seemed to become, and it was only after reading Freund's classic on the subject ("Gynäkologische Klinik," Strassburg, 1885) and adopting Schroeder's classification, together with special dissections of that region, that the mist of uncertainty rolled away, and I realized the existence of two distinctly separable forms of inflammation and became able to locate them. An *exact* knowledge of the anatomical relations of the uterus, connective tissue, and peritoneum is an absolute prerequisite. After this, we must accept certain forms of inflammation as being distinct and separable, and finally, a very large number of examinations must be made and the clinical histories studied before any one can hazard an intelligent opinion. I know of no subject in gynecology which has been shrouded in so much uncertainty and which has been so unsatisfactory in its elucidation to the student. It would consume time and space to no purpose to recapitulate what Freund and Schroeder have written in this direction, because what they both have written and said is known to all students. I merely wish to emphasize my conviction that a careful study of the subject, with these two publications as guides, and with one's own dissections and observations as corroborative proof, must lead finally to a well-defined and exact distinction between parametritis and perimetritis—a distinction which is made every day in Dr. Säger's policlinic, and which I have had opportunity of verifying. The nature of the primary irritation, the location in which it originated, the clinical history of the case, and the site of the tenderness are all important facts in a differential diagnosis. Without an accurate knowledge of these factors, any logical deduction must be unsound. I do not dispute the fact, because I know it to be true, that in many cases we may have both a peri- and a parametritis, but I also know it to be true that either the one or the other may obtain as a distinct form. Post-mortem examinations *may* be unsatisfactory because it is most easy to mistake a pseudo-membrane for the dislocated and altered peritoneum; indeed, it always requires much care to distinguish between them. But to say that we may not have a limited circumscribed inflammation of the connective tissue is

certainly incorrect. It frequently happens, nay it may be characteristic of parametritis, as Schroeder has pointed out, that the primary irritation of the connective tissue has a tendency to locate itself as a circumscribed inflammation, without manifesting any disposition to wander. Very recently, I saw several instructive cases here, one of chronic atrophic parametritis, four cases of well-defined parametritis, and one case of perimetritis equally as clear. Now, had I not verified Freund's deductions by actual dissection of the cadaver, despite the clinical histories, the many examinations that I have made, and certain characteristics of locality, I should have been at a loss to decide as to the condition with which I had to do. But with all of these things clear in my mind, I experienced no difficulty. So I feel that if, after all these months abroad, I shall have accomplished nothing more than a mastery of *one* subject, my time will not be thrown away. I am not willing, as yet, to admit that the majority of cases are really due to a perimetritis by a transference of the irritation through the uterus and tubes—at least, that has not been my experience in several hundred women examined. That this often is the case, may go without question; but it seems to me that I have seen quite as many instances in which the connective tissue *of itself alone* was the sole cause of the trouble. It will be difficult for any one to accept as fact what I have written unless he has for himself gone into the subject with as much painstaking research as I have endeavored to do, because it is really one of much difficulty and nicety. For many years the matter has exercised me considerably and mortified me not a little, but now I feel more comfortable because, having taken the bull by the horns, I realize my vantage. In general, those exudates which lie behind the uterus are *perimetric*, while those on the sides, which take origin in the connective tissue of the lig. latum and which may stretch from the fossa iliaca to the kidney, are *parametric*. We frequently find a perimetritis unassociated with any inflammation of the connective tissue, but a parametritis generally involves the pelvic peritoneum on the affected side. A secondary septic parametritis (gonorrheal) is possible, and may result from the perimetritis which has been occasioned by the septic material passing through uterus and tubes into the cavity. But we may also imagine non-infectious inflammations of the pelvic peritoneum entirely independent of any transference of irritation by the tubes, and which do not involve the connective tissue.

Diseases of the Appendages.—A great variety of cases of this character have presented themselves for treatment at Dr. Snger's

policlinic. Some of the cases of pyo-salpinx were especially interesting, as the dilated tube, with its characteristic "feel," was very easily made out. In one woman examined yesterday, in which the exciting cause was gonorrhœa, the tube on the left side was as large as the little finger and doughy; the ovary on the right side seemed to be adherent. Dr. Säger intends operating upon her very soon. In an elaborate paper written some time ago; and which is probably the best of its kind on record, Dr. Säger distinguished in salpingitis the following varieties:

- | | |
|-----------------|--------------------|
| 1. Septic. | 4. Actino-Mycotic. |
| 2. Tuberculous. | 5. Gonorrhœal. |
| 3. Syphilitic. | 6. A mixed form. |

Up to a recent period, the accuracy of his pathology had not been questioned. Lately, however, I saw a letter written by Mr. Lawson Tait to the Chicago Gynecological Society, in which these distinctions (quoted by Dr. Fenger and sustained by him) were characterized as "absurd." I therefore questioned Dr. Säger upon the subject, with the following result: This decision is based upon the exact results of clinical observation and of pathological examinations. All these varieties have been reported, and form part of the published literature of the subject. An exact conception of pathological processes makes the division necessary. The *septic* form as a specific ailment is by no means rare, and as a distinctive pathological condition is quite as much in keeping with scientific nomenclature as gonorrheal salpingitis. Actino-mycosis is a fact and not a theory. And actino-mycotic salpingitis has an existence quite as real and genuine as that of any other form of salpingitis, and cases of it are of record. One needs but to consult the literature of gynecology to find instances cited in each division made. Pathology is here stronger than any clinical experience, and it would be insulting modern scientific advance to class salpingitis under the two heads contemplated by Mr. Tait, when cases happen every day which cannot reasonably be relegated to either. The inflammation in the tube is governed by the same laws which control inflammations all over the body, and is subject to the same distinctions. In other parts of the body, we *know* that inflammations are due to different causes. The tube is no exception to the well-recognized and general law. The eye alone will fail to distinguish very frequently, the microscope must decide.

Dr. Säger's views tally exactly with what I have seen of pathological specimens during a two years' residence abroad—these preparations in Berlin, Vienna, and Leipzig alone numbering

several hundred. I have also seen and studied specimens immediately upon their removal both with and without the microscope, and I am perfectly sure that I have seen one case of the actinomycotic form and several of the septic form. Dr. Sanger has now under observation a young woman with tuberculous salpingitis upon whom he intends operating within the next two weeks, and I will be glad to send you the report of its pathology. I have seen Dr. Martin operate in three instances for septic salpingitis

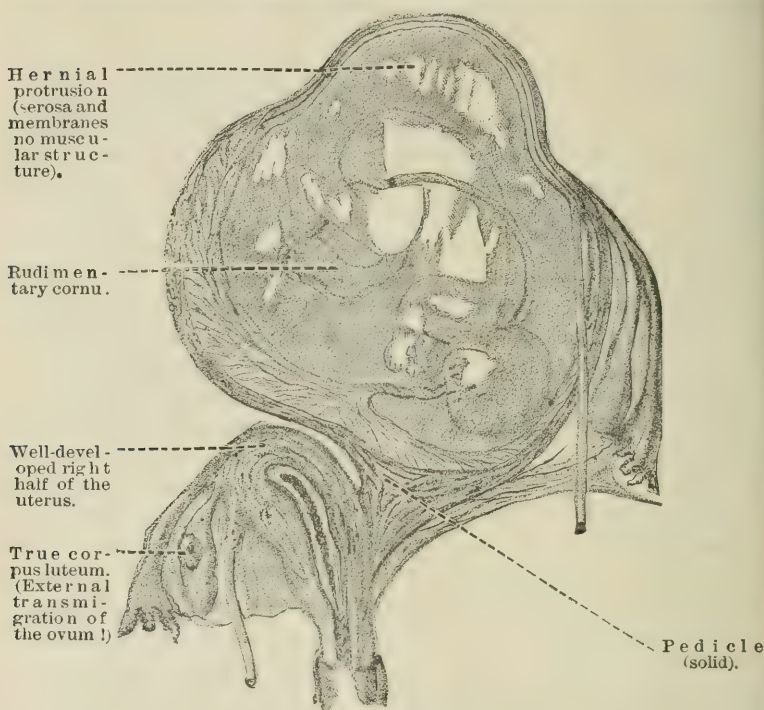


FIG. 1.—Pregnancy in the left rudimentary cornu of a uterus bicornis. Laparotomy performed nine weeks after the death of the seven-months' fetus. Amputation of the rudimentary cornu. "Symperitoneal" suture of the stump. Pedicle, with surrounding elastic ligature, dropped. Recovery. The woman subsequently gave birth to three children.

pure and simple. I have not seen a case of syphilitic salpingitis; but because I have not seen it, I see no reason to doubt its existence. It appears to me to be a perfectly logical deduction from accepted facts. It may be that many cases reported as gonorrhoeal or mixed have been, in reality, due to some other irritant, improper classification arising out of insufficient examination. I would like to emphasize here some published remarks of mine on

conservative gynecology written two years ago, that many cases of salpingitis, under much patient surveillance and judicious handling, will go on to such improvement as to render life enjoyable and an operation unnecessary. I am glad to be sustained in this view by Drs. Goodell and Baer. I certainly agree with Dr. Coe that many cases are operated upon in which the surgeon's attentions were not demanded, cases which would have gone on slowly but surely toward convalescence under good management. Two instances of more than usual interest, in which this conser-

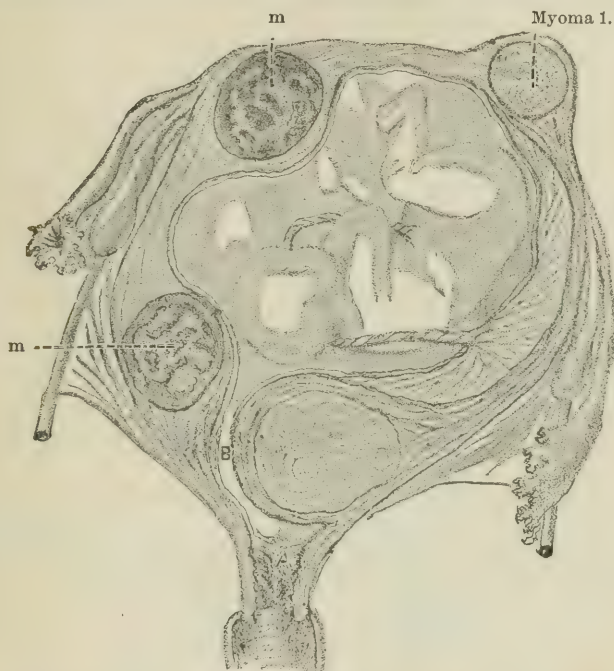


FIG. 2.—Multiple myomata of the body of the uterus, partly in a condition of fatty necrosis. Missed labor. Discharge of meconium. Commencing decomposition of the ovum. On examining under anesthesia, no fetal parts could be reached. The space A was taken for the open half of a uterus bicornis, from which a canal (B) seemed to lead towards the right into the other half of the uterus. Myoma 1, which was palpable from without, proved the muscular nature of the ovisac. Laparotomy. Porro operation, which proved that the uterus was single and that the space A was formed by a projecting myoma.

vative plan was faithfully carried out, and for years, and which is even now of daily observance, and from which the women have both prospered, have convinced me of the soundness of my views beyond a peradventure. To this end must the physician and patient both have great patience, for any improvement comes so

gradually as to be almost imperceptible to the woman herself, and the psychic element will continue to play its morbid rôle long after the physical status has thrown off the incubus. A diseased tube or a diseased ovary creates reflex psychic disturbances, which sometimes become so prominent as to obscure the primary cause of the trouble. This complication is apt to be a troublesome one. I think that in our enthusiasm over abdominal surgery, and in the surgery of the female organs generally, we fail to realize what a vast, unexplored field of conservative gynecology is awaiting investigation, a domain in which many a

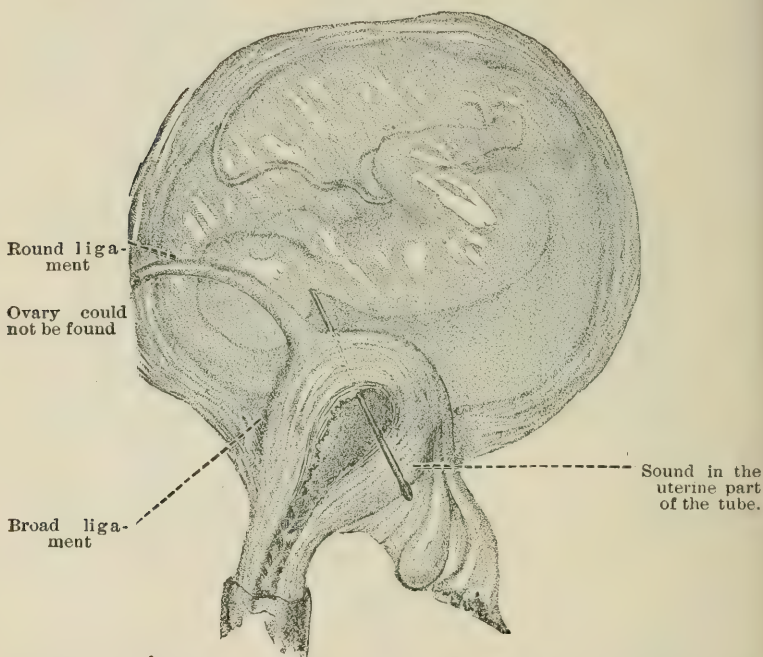


FIG. 3.—Advanced tubal pregnancy (seventh month). Intraligamentous development of the ovisac. Suppuration of the decidua. Pyemia. At the time of operation, T. 104° F., P. 126 (possibility of suppuration of the ovisac). Serosa of the ovisac stitched to the parietal peritoneum; opening of the sac by Paquelin cautery, delivery; placenta left in situ. Margins of the ovisac stitched to the abdominal walls. Death after thirty hours of exhaustion.

Autopsy.—Suppuration of the decidua, multiple pyemic abscesses, even in the wall of the ovisac.

woman may wander peacefully with all of her organs intact, and in which she shall not see upon every corner a milestone pointing toward "laparotomy," and where it will be an exception to see any one minus one ovary and tube, or both. He accomplishes

much more who, by patient, intelligent treatment, makes the woman's life enjoyable in the possession of all of her organs intact, and more than bearable from an average amount of well-being, than the surgeon who immediately removes the appendages and tucks them away in his snuggery among a lot of similar picked preparations. I have seen a vast amount of magnificent surgery, but I feel that we need more conservatism and less of the knife. We are in a fair way to learn something additional in regard to the so-called third sphincter of the rectum. Dr. Walter J. Otis, of Boston, is doing some special work in this direction with Prof. Braune, and will supplement a very valuable paper, read not long ago, with drawings and photographs from sections frozen here. He maintains, and his preparations bear out his argument, that there is no third sphincter, and that the error has been in mistaking the upper rectal valve (there being four) for a sphincter. This valve is of itself powerful enough to hold the feces in check. Dr. Otis is probably right. Nelaton's projection of a third sphincter was a mere inference, founded upon the fact that at this point feces were held in check. Dr. Otis is making a most careful study of the rectum and of some obscure diseases to which it is liable. I append drawings of three operations by Dr. Sänger which are of great interest.

HORATIO R. BIGELOW.

LEIPZIG, Oct. 4th, 1886.

TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF NEW YORK.

Stated Meeting, October 19th, 1886.

DR. P. F. MUNDÉ, *President, in the Chair.*

LAPAROTOMY FOR INTESTINAL OBSTRUCTION—RECOVERY.

DR. WYLIE related the case of a woman, 50 years of age, who had enjoyed fair health until three days previously, when she was seized with vomiting (not stercoraceous) and colicky pains, the bowels being obstinately constipated. The patient's symptoms were supposed to be of pelvic origin. She was known to have a fibroid tumor, but the menopause had occurred two or three years before. Dr. Wylie ordered pills and turpentine enemata, for the purpose of moving the bowels, and on the following day the patient was much better, although the abdominal distention was great, and neither gas nor fecal matter had passed.

As the symptoms of obstruction persisted, he decided to operate. A small median incision was made, and was afterwards enlarged to eight inches. Two or three encysted collections of bloody fluid were encountered and evacuated, and after a careful search a loop of small intestine was discovered, constricted by an old adhesion. The intestines were of a chocolate color above the constriction.

The band was divided, the loop of intestine replaced, and the wound closed in the usual manner. The patient had a copious evacuation eight or ten hours after the operation, and was then doing perfectly well, ten days having elapsed.

The case was of interest because of the comparative absence of alarming symptoms, even though the obstruction was so marked and sloughing imminent at the point of constriction. The speaker stated that this was his fourth case.

THE PRESIDENT asked where the site of the constriction was.

DR. WYLIE replied that it was at the lower end of the ileum. He thought that the band had probably existed for several years, complete occlusion of the gut being caused by a fresh attack of peritonitis. He was inclined to believe that many times when patients were supposed to die after laparotomy with so-called "latent" peritonitis, the true cause was intestinal obstruction, hence it was now his practice to move the bowels as early as the third day after operation. Considering the adhesions which must form in such cases, it was remarkable that obstruction did not occur more often.

THE PRESIDENT remarked that Professor Müller, of Berne, had read a paper on the subject of adhesions after laparotomy at the German Congress, held during the past summer, in which he had suggested several methods of preventing this complication. The majority of those present had not regarded his prophylactic measures as particularly practicable.

DR. MCLEAN asked if the pain had been definitely located by the patient.

DR. WYLIE replied that the pain seemed to be general, but as the patient was in a dull, typhoid condition, it was impossible to decide this question positively.

DR. MCLEAN said that in his own practice he had noticed that pain referred to the region of the umbilicus was characteristic of obstruction in the small intestine.

DR. HUNTER referred to the case of a patient who died from intestinal obstruction after laparotomy. At the autopsy a band of lymph was found constricting the gut. He did not see how the formation of the adhesion could have been foreseen or prevented. He agreed with the reporter as to the propriety of moving the bowels early, although it was frequently extremely difficult to accomplish this after peritonitis had developed.

DR. WYLIE stated that Mr. Tait used an enema consisting of a tablespoonful of turpentine in half a pint of boiling water; it was an excellent remedy for the relief of tympanites.

DR. HUNTER remarked that he had seen this treatment employed at least ten years before.

DR. WYLIE said he referred more to quantity and time of using as peculiar to Tait.

THE PRESIDENT added that he had often used enemata of turpen-

tine in tympanites, and with marked success. He related in this connection the case of a lady with puerperal peritonitis, whom he recently saw in consultation, in Brooklyn. When seen by him her condition appeared to be hopeless, unless she was speedily relieved. Her abdomen was enormously distended, and attempts had been made to relieve the distention by puncturing the intestines. Hypodermics of brandy and ether were being administered, and death seemed to be imminent from the exhaustion of vomiting. He suggested the use of an enema of turpentine and warm water, a teaspoonful to a quart, in place of the warm-water enemata through a long tube which had been given. Before this could be administered the patient had a large movement of the bowels, the tympanites disappeared gradually, and she ultimately recovered. There was certainly an intestinal obstruction in this instance, although it was doubtless not due to adhesions. Laparotomy might possibly be indicated in such cases.

A CASE OF DOUBTFUL OVARIAN CYST REMOVED BY LAPAROTOMY.

DR. HUNTER reported a case of thick-walled ovarian cyst with chocolate-colored contents, in which he had operated successfully that day. The tumor had been variously diagnosticated as a uterine fibroid and an ovarian cyst; it was found to have a thick wall and a short, broad pedicle. He regretted that he had not had with him his Keith's clamp and cautery irons, as they would have been especially useful in the treatment of such a stump. An interesting feature in the case was the fact that before operation, in addition to a tumor on the left side, an obscure hard mass was felt, which appeared to partially fill the pelvis; the latter was found to be a fibroid tumor that had displaced the cyst to the left. The patient was doing well.

CASE OF OVARIAN CYST WHICH WAS DISCOVERED SOON AFTER DELIVERY.

DR. HUNTER also mentioned an operation that he had performed the same day for the removal of an ovarian cyst, which had apparently developed during pregnancy. The tumor was quite firmly adherent to the surrounding organs.

DR. COE stated that the patient, who was above the average intelligence, had been under his care since June, having been referred to him when she was six months pregnant. An examination at that time had not revealed the presence of any tumor except the enlarged uterus. The woman was perfectly well. Late in September, she came to his office complaining of pain in the abdomen, especially on stooping down. She stated that three weeks before she had miscarried at the Jersey City Hospital of an eight months' fetus; when questioned regarding the character of the labor, she stated that it was rather tedious, delivery being followed by a smart hemorrhage. She continued to flow profusely for two weeks, after which time she was discharged from the hospital, and resumed her occupation as a domestic. She had noticed that her abdomen did not decrease in size after delivery as much as she had expected, but nothing abnormal was detected by either the house physician or the attendant. On ex-

amination, a smooth, rounded tumor easily felt to the left of the median line, and extending as high as the umbilicus. It was slightly movable from side to side, did not appear to be connected with the uterus, and was elastic rather than fluctuating. There was tenderness over the enlargement. From the history, position, and relations of the growth, it was thought to be ovarian. The interesting question was, whether the cyst had existed before pregnancy, and had increased in size simultaneously with the uterus. It was strange that it had not been detected before the patient left the hospital, as it was nearly as large as a man's head.

DR. PARTRIDGE, having learned from Dr. Hunter that the pedicle of the tumor was quite long, offered the explanation that in these cases an ovarian cyst with a long pedicle might develop early in the pregnancy, and might be displaced and its presence concealed by the growing uterus. He recalled a case in which he had discovered a cystic tumor in a woman's abdomen; it continued to increase in size until the patient passed from under his observation.

PERFORATION OF THE UTERINE WALL BY A SPOON-SAW WITHOUT
UNFAVORABLE CONSEQUENCES.

DR. MCLEAN said that he had recently witnessed the removal of a fibroid polypus from the interior of the uterus, the spoon-saw being used by a skilful operator. While using the instrument, it suddenly perforated the wall of the uterus, and penetrated into the peritoneal cavity to one-third of its length. The patient had recovered without any bad symptoms.

DR. HUNTER said that the accident was unfortunately not a unique one.

DR. T. A. EMMET believed that the instrument was a very dangerous one, and that the accident described was more common than was usually supposed; at least three fatal cases of perforation had occurred at the Woman's Hospital. Enucleation by means of the spoon-saw was a dangerous procedure, because the operator had no guide by which he could determine when he was dangerously near the peritoneal cavity. He had no hesitation in condemning the instrument.

THE PRESIDENT remarked that he showed to the Society a year ago a uterus containing a sessile fibroid which he had endeavored to remove by means of the spoon-saw. The patient died of septic peritonitis. If he had persisted in the use of the instrument in this case, the thinness of the uterine wall over the fibroid showed that he would certainly have perforated it.

DR. MCLEAN explained the perforation, in the case reported by him, by the fact that during the process of enucleation the edge of the saw was turned too much towards the uterine wall; the accident would be less likely to occur if the convex side of the spoon was kept against the wall.

DR. HUNTER thought that the danger of perforation was small if the surgeon kept one hand over the fundus uteri while using the saw.

PERSISTENT MENSTRUATION AFTER DOUBLE OVARIOTOMY.

DR. THOS. ADDIS EMMET stated that four years ago he had removed both ovaries for ovarian tumor, and reported the case to the Society when she had been menstruating six months. She continued to menstruate regularly for four years, until February, when she took cold and had a severe pelvic inflammation, with evidences of abscess-formation, which might be explained by the presence of the ligatures, which sought to escape externally. He mentioned the case as one beyond doubt of continuance of the menstrual function after both ovaries and tubes had been removed.

DR. WYLIE said that out of over a hundred patients upon whom he had performed laparotomy, only one had menstruated regularly for four years, in most instances the monthly flow ceased within a year after the operation.

THE PRESIDENT recalled an oöphorectomy which he had seen Dr. Noeggerath perform. The operation was done for the relief of dysmenorrhea. The patient continued to menstruate for a year after her recovery, and the dysmenorrhea and other abdominal pains persisted. Her abdomen was re-opened, the intestines which were found adherent to the cicatrix were lifted out of the pelvis, the stumps of the removed ovaries and the surrounding adhesions were cut off and then thoroughly cauterized; yet after this second laparotomy the patient continued to menstruate just the same as before. Four years later, she entered the President's service at Mt. Sinai Hospital, this time with a well-marked uterine fibroid which he was sure had not existed at the last operation. Her periods still recurred regularly. She refused further operative interference, was discharged and lost sight of. Two other cases of persistent menstruation had come under his observation. In one instance the ovaries had been removed by Professor Hegar; strange to say he also found a fibroid in one instance, which had not been there at the time of the operation, as he had ascertained during the past summer by reference to Hegar's records. A patient, from whom he had removed the tubes and ovaries the previous spring, was still menstruating.

DR. HUNTER said that one of his patients, from whom he had removed the uterine appendages a year and a half before, was still menstruating.

DR. MORRILL remarked that a patient of his own, whose uterine appendages Dr. Hunter had extirpated fifteen months before, was still menstruating regularly; the flow ceased for a short time, but then reappeared as before.

CASE OF INCARCERATED HERNIA IN A WOMAN TWO MONTHS PREGNANT, COMPLICATED WITH HEMATOCELE—ABORTION INDUCED ON ACCOUNT OF PERSISTENT VOMITING.

THE PRESIDENT stated that he had been called to see a patient two months pregnant, who had a femoral hernia which, as a result of persistent vomiting, had become incarcerated. A surgeon had employed taxis for an hour, and had then operated. He, Dr. Mundé, was informed that the intestine was black from ecchy-

mosis caused by the efforts at reduction by taxis. The patient's condition was satisfactory for two or three days after operation, then she began to vomit again and had a rise of temperature. On examination, a mass as large as two fists was felt behind the uterus, depressing that organ. The President supposed the tumor to be either an intraperitoneal exudation caused by the taxis or an hematocele with succeeding exudation. It increased in size rapidly, the patient's vomiting continued, and her exhaustion increased. Dr. Thomas was asked to see her; he concurred in the diagnosis and also in the advisability of inducing premature labor, which was easily accomplished by the instrumental dilatation and the curette and forceps. The patient rallied and did not vomit for twenty-four hours. Then the nausea returned, and she died two days after.

A CASE OF FATAL RUPTURE OF THE VAGINAL FORNIX DURING
PARTURITION IN A MULTIPARA.

THE PRESIDENT reported the case of a woman who was in labor with her tenth child, her previous confinements having been normal. She was attended by a midwife, who stated that the pains were normal, and the case seemed to be progressing favorably, when suddenly the patient complained of severe pain in the left inguinal region. A physician was sent for; he found the head presenting, and endeavored to deliver with forceps, but failed. He then performed version and extraction without difficulty. On removing the placenta, he noticed that there was considerable hemorrhage. On examination, a large rent was discovered in the fornix to the left of the cervix, which contained a quart or more of dark blood-clots. The entire hand could be passed through it into the peritoneal cavity. The woman was moribund when seen by the President, in company with Dr. Thomas. The child was an unusually large one, weighing eleven and a half pounds. The patient had probably had an old laceration of the cervix, which had been torn through into the peritoneal cavity.

HYSTERO-TRACHELORRHAPHY UNDER COCAINE-ANESTHESIA.

DR. CLEVELAND stated that he had operated in two cases of lacerated cervix, local anesthesia being induced by the application of a twenty-per-cent solution of cocaine. The operation in one instance lasted half an hour; in the other, three-quarters of an hour. The patients declared that they experienced no pain. The cocaine-solution was first painted over the field of operation, and then a tampon saturated in the solution was applied to the cervix, and left in position for fifteen minutes before the operation.

DR. HUNTER stated that he had used cocaine in several minor operations. In one instance, a hypodermic of five minims caused the patient to be wildly excited.

THE PRESIDENT had observed alarming phenomena after the

injection of ten minims of a four-per-cent solution. He had used cocaine in several gynecological operations, and found that when patients were naturally quiet, it worked very well; when they were inclined to be nervous, it did not allay their agitation.

DR. MCLEAN thought that some of the symptoms of mental disturbance might be ascribed to fear or nervousness. He had used the drug forty or fifty times without any unfavorable symptoms.

OFFICERS FOR THE ENSUING YEAR:

President, DR. P. F. MUNDÉ; *First Vice-President*, DR. G. T. HARRISON; *Second Vice-President*, DR. B. M. EMMET; *Rec. Secretary*, DR. H. C. COE; *Cor. Secretary*, DR. E. H. GRANDIN; *Treasurer*, DR. E. L. PARTRIDGE; *Pathologist*, DR. J. B. HUNTER.

Stated Meeting, November 2d, 1886.

The President, DR. PAUL F. MUNDÉ, *in the Chair.*

SPECIMEN OF FIBROID TUMOR OF THE OVARY—OPERATION—RECOVERY.

DR. SIMS presented the specimen, with the accompanying history:

Mrs. F., aged 48, the mother of two children, one now grown to manhood, the youngest 23 years old. Menopause occurred four and one-half years ago. Previously she had always been regular. Had severe pain with menses for some ten years previous to the menopause, the pain preceding the flow from one to three days. General health had always been very fair otherwise. Subject to severe backache and dragging pains on the left side for some years past. Within the last two years her backache increased very much in severity and constancy, so much so that she was unable to walk or ride with any comfort. Just a year ago she noticed a perceptible enlargement of the left side of the abdomen, and could distinctly feel a round, hard mass with her fingers, on making pressure upon the abdominal walls. She then consulted her doctor, who gave her general tonic treatment, with vaginal douches for six months. All her symptoms becoming aggravated, so that she was confined to her bed for the most of the time, and seeing that the abdomen was steadily growing larger, her doctor brought her to me on the first day of June last. I found a large, round tumor lying directly over and a little to the left of the uterus. The uterus was retroverted and firmly pressed against the spine by the weight of the tumor. The tumor could be moved slightly from side to side, and with the aid of the uterine elevator the uterus could be moved laterally, independently of the tumor. I made a diagnosis of ovarian fibroid, and on account of the amount of the distress the tumor was causing, I advised an operation for its removal. The operation was performed on the 3d of June. Incision was originally four inches long, but had to be increased to six inches in order to remove the tumor. The tumor rolled out of the enlarged in-

cision very easily, and the pedicle was tied in the usual manner. There were no adhesions, so I used no drainage-tube. Wound healed kindly, and patient went home in just four weeks. Last week I heard from her, and she reports herself as perfectly well. The weight of the tumor was a little over two pounds.

DR. COE remarked that four years before he had had occasion to make a special study of this variety of ovarian tumors, and had searched the literature carefully for reports of cases, of which he had then found no less than twenty or twenty-five.

It was stated by many writers that true fibroma of the ovary did not exist, the tumors so described being invariably either sarcomatous in structure, or else subperitoneal uterine fibroids with long pedicles that had become detached from the uterus. He was surprised to see that recent editions of treatises on gynecology still referred to the existence of true ovarian fibroma as doubtful. He had examined four undoubted specimens, including one large fibro-cyst.

THE PRESIDENT referred to a tumor which he had seen Professor Hegar remove during the previous summer. When the abdomen was first opened, the growth appeared to be a uterine fibroid, but subsequently its relations proved its ovarian origin. Professor Hegar called it a fibro-myxoma.

DR. SIMS said that the tumor appeared to be bi-lobed; when first removed it was much larger than at present, and cut with a gristly feel, like an ordinary uterine fibroid. He did not believe that such tumors of the ovary were so rare as had been represented, since he had himself removed two others similar to the one presented, but smaller, in the course of the past eighteen months.

THE PRESIDENT asked regarding the symptoms caused by these tumors.

DR. SIMS replied that pain in the back and abdomen were the principal indications for laparotomy.

THE PRESIDENT called attention to the importance of differentiating ovarian fibroma from chronic hypertrophy, the result of hyperplastic oöphoritis; the enlargement in the latter case could not properly be called a tumor of the ovary.

[The specimen was examined microscopically by Dr. Coe, who reported that its minute structure was essentially fibro-myomatous, although in some spots there were collections of spindle-cells which suggested a transition to sarcoma. He regarded the growth as benign in its character, although some authorities claimed that such fibrous tumors of the ovary should be called fibro-sarcomata. There was no more reason to look for recurrence after the complete removal of such a tumor as the one examined than there was in the case of an ordinary subperitoneal fibroid.]

SPECIMEN OF FIBROMA OF THE URETHRO-VAGINAL SEPTUM.

DR. MCLEAN exhibited the specimen and related the following history:

The case occurred in the practice of Dr. D. C. Cocks, of this city. The patient, a German woman, 52 years of age, had complained of a "lump" at the vulvar orifice for three years, which caused some

difficulty in micturition, and was inconveniently large. On examination, a tumor exactly like a cystocele filled the vaginal orifice, and could be pushed back behind the pubic arch. Examination of the urethra and bladder showed no communication between them and the tumor, but the solid mass, two and one half inches long and one and one-half inches thick, could be felt in the vesico-vaginal septum.

I assisted Dr. C. in the operation for its removal, on October 23d, 1883. It was easily enucleated by a free incision through the vaginal wall. The redundant vaginal tissue was reduced by removing sections on either side of the incision, and the wound being thoroughly carbolyzed, was closed by silk sutures. It had healed perfectly and the patient remains well at this date.

Microscopically the tumor consists of fibrous tissue with masses of small sarcomatous cells.

Diagnosis: Fibro-sarcoma of vagina.

SPECIMEN OF SUPPOSED CALCAREOUS DEGENERATION OF THE
PLACENTA IN THE THIRD MONTH OF PREGNANCY.

Dr. McLean also showed a small strip of fibrous tissue, inclosing several hard nodules. The history of the patient from whom it was derived was briefly as follows: A healthy young married woman had aborted at the third month, and again became pregnant, when about the third month she began to flow. The hemorrhage became quite profuse, when Dr. Edward Cocks, who was in attendance, made a vaginal examination and found protruding from the os externum a mass which he supposed to be the aborted ovum. He disengaged this with his fingers, and extracted it; it consisted of numerous clusters of bead-like bodies, strung together on stems of fibrous tissue, suggesting cystic degeneration of the chorion. On examining these supposed cysts, they were found to be concretions having a stony hardness, inclosed in capsules of fibrous tissue. There was at least a small handful of these curious bodies, beside which nothing else was discharged from the uterus; no other trace of the ovum could be found. The patient recovered promptly. Owing to the carelessness of the nurse, only a small portion of the specimen was preserved. The speaker suggested calcareous degeneration of the placenta as a plausible explanation.

Dr. GRANDIN asked if the patient had shown any evidences of hysteria.

Dr. McLEAN replied that she had not. Her pregnancy had been perfectly normal.

THE PRESIDENT remarked that if this was a specimen of calcareous degeneration of the placenta, it was certainly an exceedingly rare one, since the disease occurred at such an early stage in the pregnancy.

Dr. COE called attention to the striking resemblance which the

nodules bore to phleboliths; he asked the reporter if he had thought of the possibility of their being such bodies.

DR. McLEAN replied that their great number would render such an hypothesis improbable.

[The specimen was referred to Dr. Coe for examination. He reported as follows: It consists of three smooth, oval bodies, having the shape of cherry stones, but only one-half as large, arranged in a row along a fibrous cord. They are not simply attached to the cord, but are imbedded in it, the cord expanding to envelop each nodule and then contracting to its original dimensions again, so that between two nodules its calibre is the same as it was before expansion. On making a median section of a nodule it presents a concentric appearance, like a miniature vesical calculus, the different layers consisting of (1) a thick capsule, composed of tough fibrous tissue, of semi-cartilaginous character, and comprising at least one-half of the thickness of the nodule; (2) a thin layer of calcareous matter, soluble in strong nitric acid; (3) a nucleus of organic matter; (4) a central lumen, so small that it barely admits the point of a pin. Sections of the fibrous cord at a point adjacent to one of the concretions, when stained and examined under a high power, present the characteristic structure of an artery that has become the seat of chronic endarteritis, *i. e.*, the lumen is small, the intima greatly thickened through the over-growth of connective tissue, and the adventitia itself shows evidences of the same change. The tissue surrounding the vessel is of a loose myxomatous type, richly cellular, and containing many blood-vessels. In several spots the latter show circumscribed dilatations; collections of blood-pigment mark the sites of extravasations. From this brief outline, it is clear that the condition is chronic obliterating endarteritis, the nodules representing circumscribed thickenings in the vessel-walls, in which lime salts have been deposited; the small cavity in the centre of the nodule is all that remains of the lumen. All traces of chorionic villi have disappeared.]

SPECIMEN OF HUMAN OVUM EXPELLED DURING THE FIRST MONTH OF PREGNANCY.

DR. MORRILL showed a beautiful specimen of ovum in a state of almost perfect preservation, the patient from whom it was obtained being a married woman about thirty years of age, the mother of three children. In October, 1885, she had a miscarriage, after which she menstruated regularly every twenty-eight days until September 17th, 1886, when she consulted him with regard to a pain in the left ovarian region. She stated at that time that three days had elapsed since the day when her monthly flow ought to have begun; she was suffering with congestive headache, and, to use her own expression, "she wanted to be unwell, but could not." She did not believe herself to be pregnant. Two grains of the binoxide of manganese were ordered three times a day, and this amount she took for four days, when she began to flow. As the pain and hemorrhage were in excess of that to which she had been accustomed at the menstrual epoch, she became alarmed and sent for Dr. Morrill. Shortly before his arrival

she had several expulsive pains, during which the present specimen was passed.

THE PRESIDENT thought that the ovum was certainly not older than four weeks, and might even be younger. Dr. Breus, of Vienna, had reported the finding of an ovum expelled fourteen days after conception; this was the youngest on record.

DR. MORRILL said that the history of the case showed the efficacy of binoxide of manganese as an oxytocic. There was no other way of accounting for the abortion, except by reference to the action of the drug, of which the patient had taken only twenty-four grains.

DR. GRANDIN recalled a case in which the binoxide administered for three days had caused an abortion.

THE PRESIDENT did not see why the drug could not be regarded as an abortifacient, at least in the early stage of pregnancy. He would certainly be careful in prescribing it where there was any suspicion of this condition.

DR. MORRILL said that he could not regard the presence of a monthly flow as an absolute proof of the absence of pregnancy, since he had had a patient who apparently menstruated for four months when in that state. He was positive that the blood came from the uterus, because he had watched it through the speculum, as it oozed from the os externum.

DR. GRANDIN believed that the hemorrhage originated at some point below the os internum.

DR. PRYOR (present by invitation) mentioned the case of a pregnant woman who flowed every month so excessively that it was finally necessary to send her to Bellevue Hospital. She lost as much blood each time as if she had had a miscarriage, and it certainly came from the uterine cavity. She had no expulsive pains accompanying the flow, and was eventually delivered at full term. She died of Bright's disease after her confinement, and at the autopsy nothing was found in the uterus to account for the persistent hemorrhage.

MERCURY-POISONING IN AN INFANT. APPEARANCE OF THE UN-CHANGED METAL IN THE STOOLS.

DR. MACKENZIE reported the case of a child with pertussis, who was given a large thermometer as a plaything. It broke the thermometer, and succeeded in swallowing about two drachms of the quicksilver. No bad symptoms were observed for a week, when the patient was attacked with a severe diarrhea, accompanied by tympanites. Dr. Mackenzie saw the child two weeks after the accident, and from the location of the pain, the tympanites, etc., he was led to make a diagnosis of perityphlitis. Three days later about a teaspoonful of pure mercury was found on the diaper. Other evacuations of the metal occurred, and the child recovered.

In reply to a question from the President, the speaker said that there appeared to have been no oxidation of the mercury.

FETUS OF UNUSUAL SIZE.

DR. MORRILL described a fetus, weighing sixteen and one-half pounds, which he had extracted dead. The mother, who weighed

upwards of two hundred pounds, had borne several large children. In this labor she was attended by a midwife; after waiting forty-eight hours and seeing that the progress was slow, the latter sent for a physician, who succeeded in bringing down a foot. He then sent for a colleague, and together they extracted a leg. Dr. Morrill was then called and delivered a dead child, the weight of which, as carefully taken by him in the presence of his *confrères*, was as before stated.

THE PRESIDENT remarked that a German physician in the city had assured him that he had delivered a child weighing eighteen pounds. The largest child on record, weighing twenty-three pounds, was borne by Anna Swan, the giantess.

FETUS PAPYRACEUS.

DR. MCLEAN reported the following case: After a normal labor, he delivered a child weighing about ten and one-half or eleven pounds. The uterus remained large, and on examination some body could apparently be felt in addition to the placenta. By expression the latter was expelled, and with it a second amniotic sac, containing an anencephalic fetus, about four months old, completely flattened. The pregnancy had been perfectly normal in spite of the presence of the second fetus.

THE PRESIDENT remarked that such cases as the one reported had sometimes given rise to the suspicion of superfecundation. He asked regarding the appearance of the placenta.

DR. MCLEAN said that the half opposite to the flattened fetus had undergone extensive fatty degeneration.

THE PRESIDENT thought that this arrest of growth of one fetus was not uncommon in twin-pregnancies.

CASE OF PREMATURE DEVELOPMENT IN A BOY.

DR. SIMS related the case of a boy, three and one-half years of age, who had been brought to him, because his relatives thought that there was something peculiar about the child's sexual organs. The boy was as large as a child of seven (he weighed fifteen pounds when born), and had a penis and testicles as fully developed as those of an adult while the pubes were covered with a thick growth of hair which began to appear when he was eleven months old. The child was semi-idiotic, acted very much like an animal, especially when he was alarmed, and laughed with a peculiarly deep chest-tone. When he cried, the cry resembled the bellowing of a calf. He had constant erections and masturbated frequently, but had no seminal emissions. He had no inclination for the opposite sex. [The case will be reported in full in a future number of this Journal.]

DR. JACOBI said that he had seen a few cases of premature development. From the general description of the boy and the peculiarities in the configuration of the cranial and facial bones, he inferred that he was a *crétin*. The sexual organs were often

prematurely developed in this class, masturbation being one of the first symptoms of sexual precocity, which often accompanied the early growth of hair on the genitals. He recalled a medico-legal case, in which a girl seven years of age had accused a school-master of rape. She described the process of sexual intercourse so exactly that it seemed remarkable how she could have learned about such matters. On examining her external genitals, Dr. Jacobi found that the parts were intact, in fact, coition would have been a physical impossibility. There was hair on the mons which, with the labia majora, was large and well developed. This was a case of premature development of the imagination together with the sexual organs.

CASE OF MULTIPLE NEUROMATA OF THE ABDOMINAL WALL, FOLLOWING LAPAROTOMY.

DR. SIMS related the subsequent history of a case described at a former meeting (January 19th, 1886). He had then described the development of numerous painful nodules in the subcutaneous adipose tissue of the abdomen after laparotomy. These were excised, and had been submitted to different microscopists for examination, their reports conflicting. Dr. Sims had accepted the opinion of one gentleman that the growths were neuromata, but another pathologist had recently affirmed that they presented the minute structure of sarcomata. From the clinical history of the patient, he was inclined to believe that the tumors were not malignant. After removing the nodules, others made their appearance, and these were in turn excised until the patient's abdomen presented a deep cut or gully, extending entirely across the body, from one lower rib to the opposite one. This wound healed by granulation, and the patient was relieved of the old pain, but there still remained a number of small fibrous bands that extended between the old median incision and the superficial transverse one, about a quarter of an inch apart. These caused unpleasant dragging sensations, until they were divided under cocaine-anæsthesia, when the patient was entirely relieved.

DR. JACOBI said that about twelve or fifteen similar cases were on record. Circumscribed collections of fat in the subcutaneous tissue might cause the same symptoms as neuromata, and hence might be classed with those growths; both were doubtless due to some inflammation of the peripheral nerves. The sections of the nodules described by Dr. Sims, as examined by the speaker, had consisted almost entirely of dense fibrous tissue.

DR. SIMS remarked that one microscopist had found numbers of round and giant cells in a few sections.

DR. COE said that he had examined a large number of sections, and had found no appearances sufficient to justify the diagnosis of malignant disease. He had stated in his report that the growths were neuromata. He had been shown sections prepared by the gentleman to whom Dr. Sims had alluded, which certainly did suggest sarcoma.

DR. JACOBI, who, with Dr. T. A. Emmet, had seen the patient in consultation, called attention to the fact that her child had con-

genital heart-disease. Could there be some connection between the peculiar tendency of the mother to neuritis and the cardiac trouble in the infant? The disease—mitral insufficiency, with resulting compensatory hypertrophy—was rare in such a young child.

CASE OF OVARIOTOMY DURING PREGNANCY—RECOVERY WITHOUT INTERFERENCE WITH THE PREGNANCY.

THE PRESIDENT reported the following case: Six weeks ago, he was called to Yonkers to see a patient with supposed ovarian tumor. She had borne four children, the last one ten months before. After the birth of the last child, the menstrual flow appeared twice, and then failed to return. Soon after she began to vomit excessively. The abdomen increased in size rapidly, so that the attending physician decided to tap her; this he did, withdrawing four gallons of a dark fluid, a specimen of which was sent to the President, who examined it microscopically, and found that it contained ovarian corpuscles, so that the probable diagnosis of ovarian cyst was made. On examining the patient, he detected a large fluctuating tumor, filling both iliac regions, and extending upwards as far as the diaphragm. The cervix uteri was suspiciously soft, the vaginal mucous membrane presented a marked bluish discoloration, and ballottement was obscurely felt on bimanual examination. These signs, when considered in connection with the fact that menstruation had been absent for four months, appeared to justify the diagnosis of pregnancy, complicated with ovarian cyst. The patient was advised to wait until she had grown stronger and the tumor had begun to fill again. Two weeks later, she had improved so much that she came to the speaker's office, but one week after the vomiting began again, and the tumor grew so rapidly that an immediate operation was advised. This was performed four weeks before, the family physician, Dr. Benedict, and Drs. Warren, Grandin, and Wells assisting. The growth proved to be a multilocular ovarian cyst (weighing twenty-five pounds), with a considerable number of fresh adhesions to the anterior parietes, which bled profusely on being separated, so that the operation was retarded to fifty minutes. The tumor grew from the left side by a long pedicle; the uterus, which was enlarged to the usual size at the fifth month of pregnancy, was left undisturbed. The patient made a good recovery, the temperature not exceeding 99.5° F. A few hours after the operation, the vomiting recommenced, and threatened to exhaust the patient. Two days later, the speaker saw the patient, and found her much prostrated. Gastric nutrition was at once stopped, rectal alimentation alone ordered, and the cervix was dilated by the finger, morphine being at the same time injected over the epigastrium. In a few hours the nausea and vomiting ceased, the stomach soon retained food, and convalescence was uninterrupted. The patient was then walking about, and the pregnancy was pro-

gressing normally; there was no reason why she should not go on to the full term.

DR. WYLIE thought that the dilatation of the cervix undoubtedly cured the vomiting. He had never known this operation to fail in such cases, nor had he ever seen abortion produced by dilatation, provided that the finger or instrument was carried up *to*, but not *through* the os internum.

TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF PHILADELPHIA.

Stated Meeting, October 7th, 1886.

The President, B. F. BAER, M.D., in the Chair.

RUPTURED FALLOPIAN PREGNANCY, LEFT SIDE.

DR. JOSEPH PRICE exhibited the ovary and distended tube which had burst spontaneously. No fetus was discovered; a very free hemorrhage into the peritoneal cavity had occurred. In the vast majority of cases, the rupture is fatal. The cause of death is invariably hemorrhage.

Dr. Price also exhibited specimens from a case of

DOUBLE PYO-SALPINX WITH CYST OF THE RIGHT BROAD LIGAMENT AND ABSCESS OF THE OVARY OF THE SAME SIDE.

The specimen consisted of both Fallopian tubes and ovaries, and was a good example of pyo-salpinx, both tubes being closed at the ends and distended with pus. The right tube was long and very much distended and with a large abscess of the ovary and a cyst of the ovary as large as a base-ball occupied the whole of the right side of the pelvic cavity, where the entire mass was firmly bound down and gave rise to great suffering.

The diagnosis in this class of cases is either made or it is not made. He is quite sure Mr. Tait before proceeding to an operation is fairly certain of his diagnosis, and this generally presents but little difficulty. It is true that he operates early, as soon as he recognizes dangerous troubles. Dr. Price feels certain that delay with us is accountable for the large death rate. Dr. Mundé says of Mr. Tait, "Now his wonderful dexterity and tactile sense come into play, for with these fingers he at once makes the diagnosis which he appears to pride himself on not attempting to make with accuracy in those cases demanding removal of the uterine appendages, the so-called 'Tait's operation,' except through the abdominal incision."

While at Birmingham, recently, he visited regularly his large public clinic, and watched carefully his rapid examination; he cited one case to illustrate the fact that Mr. Tait made his diagnosis through the vagina. After passing a number of cases, displacements, etc., which he did not think of sufficient importance to ask us to examine, he came to one and kindly asked us to examine and express an opinion. Dr. Price examined and found the physical characteristics of pus. Mr. T.'s reply was "quite right." The patient was at once sent to Spark Hill for operation. One tube was found full of pus, the other partially filled and the ovaries cystic. This case illustrates that Tait does not guess at conditions and resort to abdominal section for diagnostic purposes. A world of mischief has already come of such statements. Of course, there are exceptional cases demanding exploratory incision. Tait says: "Save when the seat of such organic disease as will explain genuine suffering, the uterine appendages ought not to be removed, and that those who attribute all the pelvic aches and ails of women to the ovaries and tubes, and rush in to remove them, are dangerous people."

DR. LONGAKER considered Case 1st one of tubal pregnancy. Recurring attacks of peritonitis should direct attention to the probability of pyo-salpinx. The condition should be easily recognized, but is sometimes overlooked.

DR. HOWARD A. KELLY remarked that, in view of the increasing number of cases of hemato-salpinx which we were now meeting, it was of the utmost importance that all those which come under our immediate notice should receive a more rigid examination, and elaborate attention should be directed to the clinical history. He believed positive diagnostic signs would be discovered which will make our interference more a matter of scientific certainty. Dr. Kelly was not speaking of those cases of a minor degree of tubal apoplexy or hemorrhage symptomatic of a grave dyscrasia, but of those in which, owing either to a closure of an outlet or to disease of the mucous membrane of the tubes or grave local circulatory disturbance, a mass collected, forming a sausage-like tumor, producing various symptoms, some of which are common to pyo-salpinx. There is always great local tenderness and often masses of exudate embedding and obscuring the original tumor, and in cases of rupture often a peritonitis as rapidly fatal as in pus-cases.

The suspicion that a tubal pregnancy lies at the bottom of the explanation in all these cases is negated by the fact that a majority of the cases are hemato-salpinx of both tubes.

A very important symptom which I learn was present in Dr. Price's case was also prominent in my own case, that is a stillicidium of bloody grumous material per uterus and vaginam, which is regarded by the patient as a prolonged menstrual period. This undoubtedly flows from the tube, and is altogether analogous to the free purulent discharge from the tubes of pyo-salpinx which he had seen. He intends, in his next case of this kind, to catheterize the tube and dilate and endeavor to relieve his case of hemato- or pyo-salpinx in this way if the discharge exists in sufficient quantity to lead him to suspect a patulous uterine orifice.

Cases of hemato-salpinx resulting in rupture and death have been reported; one is figured by Winckel.

There are several facts in connection with the life-history of pyo-salpinx which he would like to emphasize. In the first place, he has seen no case which was not the product of a gonorrheal infection, and while not prepared to deny the possibility of a purulent change in the contents of a hydro-salpinx, for which Bandl contends, these cases, so ably worked up by Dr. Price and his own observations elsewhere, all point to *gonorrhea*.

Again, *these cases with a history of such acute onset, constant agonizing pain and constant high temperature and often typhoid condition, are the advance stages of a florid gonorrhea, and are found almost exclusively among the unmarried, and result from contact with a similarly active gonorrhea in the male.* They form a picture utterly different from that developing from the exposure of a wife to the discharges of a husband who has been told that a trifling gleet discharge amounts to nothing, or who has long appeared well, only noticing the discharge after occasional debauches or unusual sexual indulgence. *Here the disease assumes the insidious sneaking type, commencing with little periodical pains scarcely noticed at first, a slight excess of menstrual flow, with more pain after, and so on for months, until perhaps an abortion, or a pregnancy completed, seems to open up channels for a more serious and general infection.* I have had typical cases of this in my own practice. It will be often noticeable here that, in view of the much greater suffering experienced after the puerperal period, the patient will forget what has gone before, and blames her subsequent trouble on the mismanagement of the doctor.

The extreme importance of this whole question, second to none in the whole range of gynecological investigation, suggests to the mind many pertinent inquiries. What parts of the female genital tract are the favorite seats of the disease? In what order are the structures attacked? May it linger long in one part, and then, under some change of condition, attack another part? What is the resisting power of the virus to our various therapeutic agents?

The third question he believes he can answer satisfactorily. In addition to the well-known cases in which the disease lingers indefinitely in the urethral tubules and the vulvo-vaginal glands, *he believes that in many of our cases of pyo-salpinx, the disease has already lingered for a long time in the uterine mucosa, and has shown itself in the form of a uterine catarrh.* Since formulating this doctrine for himself, it has necessarily carried him back to the treatment of many of his cases by topical intrauterine remedies—a form of treatment which he had some time since abandoned as irrational.

A patient is now coming to his office from whose pelvis he literally quarried out a large, stinking tubo-ovarian pus-sac. The left tube and ovary were unaffected, and he left them. She has a free purulent discharge from the uterus, for which the only rational treatment is active local measures.

It is important to recognize the fact that, apart from a slight irritation of the outlets of the glands at the vulvar orifice, there may be no other signs of gonorrheal disease than such discharge as issues from the os uteri. The vagina may be perfectly sound, Bumm and Schwartz lay especial emphasis on the fact that the flat epithelium of the vagina has great powers of resistance against

the poison, while delicate epithelial structures, particularly the ciliated, are its favorite nesting-places.

We will apply our remedies with some success if we bear in mind the fact that the disease does not merely lie on the surface, waiting to be wiped off to effect a cure, nor does it merely penetrate the tubular glands, but it invades the interior of the individual cells and attacks the nuclei; it penetrates the strata of connective tissue below, penetrates blood-vessels and lymph spaces, and forms thrombi. Relapses then, even after the most energetic treatment, need not surprise us.

We find here, as in many other points, our forefathers did wiser than they knew; their therapeutic resources reached far beyond their knowledge of etiology. No wonder they used the most powerful acids, and loved to leave a stick of solid nitrate of silver in the uterus to cure this most obstinate catarrh. If he cannot succeed in catheterizing some of these cases, he knows of no other way in which a perceptible deposit of pus, once formed in a tube, can be removed but by the radical operation. And let there be no delay here. Cases have been lost simply from the secondary consequences of carrying around this bag of pus in the abdomen. Dr. Veit alone lost two cases from brown atrophy of the heart.

DR. M. PRICE remarked that the good results in his brother's operation were due to free irrigation; from three to five gallons of warm water were used to cleanse the peritoneal cavity, and to stream through it for ten or fifteen minutes.

DR. BAER made some remarks upon the value of intrauterine medication. Although high authorities had denounced it as unnecessary and dangerous, he had continued to use it, he has never given it up, as he has always found cases where it was needed; the method has been productive of good results in his hands, and he never expects to give it up. It will not cure pyo-salpinx, but may prevent it. It will be ludicrous to see the ultra-scientific return to intrauterine medication after the denunciation to which it has been subjected. Dr. Baer prefers the injection of tincture of iodine, carbolic acid, nitric acid, or whatever application may be preferred, say about twenty minims, by means of a hard-rubber syringe, to any of the cotton-wrapped or other forms of applicator. No case of inflammation has followed this method of treatment in his hands, and he has less uterine colic than with the applicator, perhaps because less force is required; no tenaculum or counter-pressure is necessary.

DR. J. PRICE, in closing the discussion, remarked that in the first case there had been a missed period, and two or three weeks later a flow of blood commenced, and was continuous for weeks, with tenderness of the abdomen. By the microscope only can an exact diagnosis be made between hemato-salpinx and tubal pregnancy, and he had had no opportunity to make an accurate one. Rupture may occur early in tubal pregnancy.

An unhealthy condition of the endometrium is very rare. The abortive treatment of gonorrhea as applied to the male urethra has resulted in orchitis and stricture. The case of pyo-salpinx was operated upon four weeks after an abortion.

DR. DRYSDALE, in view of recent strictures upon intrauterine medication, would like to mention a case seen by him under Mr. Tait's treatment in 1883. The condition was endometritis, and Mr. Tait etherized the patient, dilated the uterus, and applied the Paquelin thermo-cautery thoroughly to the endometrium.

DR. B. F. BAER presented the specimen, and related the following history of

A CASE OF FIBRO-SARCOMATOUS TUMOR OF THE OVARY.

Mrs. —, aged 36 years; married; two children; youngest 15 years of age. About July, 1885, she first noticed that the lower portion of her abdomen was increasing in size, especially in the left iliac region, and she was troubled greatly with flatulent dyspepsia. She had suffered for many months before with pain in the left iliac region, and on November 29th she was seized with what she characterized as terrible pains in that region. She was compelled to take to her bed, and her physician said she had pelvic peritonitis. She remained in bed three weeks, when she became able to be up, still suffering considerable pain, however, with diarrhea and an occasional discharge of blood from the rectum. She now noticed a hardness in the lower left iliac region. This continued to increase in size, while she grew weaker, and began to lose flesh. At this time, she passed into the care of another physician, who ordered her back to bed, and blistered the surface of the abdomen. She remained in bed four weeks, but the growth failed to diminish in size; on the contrary, it continued to increase. On February 10th, she was able to get up, and began to feel stronger, but suffered from excessive tympany, together with nausea, loss of appetite, and great pressure upon the rectum and bladder. She also suffered from severe dyspnea.

On March 20th, she was suddenly seized with cramp-like pains in the region of the tumor. These continued for a few days, with almost entire absence of sleep, and with continuous nausea. The pain gradually subsided, but she was losing flesh and strength. She had another attack of pain, with such dyspnea as to make her recovery a matter of doubt. Ten days later, she first consulted me. On examination, I found the abdomen greatly distended and tympanitic, except in the left hypogastric region, which was dull on percussion. Palpation revealed an irregular lobulated mass, apparently having pelvic connections. The uterus occupied the right anterior portion of the pelvis, crowded over by the mass in the left pelvic region. This mass was hard and firm and nodulated, extended into the hypogastric region, and was apparently closely connected with the uterus as well as with the other organs of the pelvis.

The previous history of the case, together with the physical signs now present, led me to suspect the presence of pus, possibly suppuration in a thick-walled ovarian cyst. The uterus measured two and one-half inches in depth. Its connection with the tumor did not seem more than ligamentous, and the apparent rapid development weighed against fibroid tumor of that organ.

The indications were plain. The patient entered my private hospital April 29th, ether was administered, and an exploratory

incision was made. This revealed a nodulated mass having the color and appearance of a thick-walled ovarian cyst; but it seemed to be solid throughout, and was firmly fixed in the pelvis. Its size could not be reduced, and the incision was increased to six inches, the tumor separated from its adhesions, and lifted from its nest. I was much gratified to find that it had a very small pedicle, which was tied, and the tumor was removed.

The patient bore the operation badly, and it was thought that she would succumb on the table; it was hours before the pulse could be felt at the wrist; but she rallied, and the next morning she seemed to be doing quite well. A free discharge of bloody serum had taken place through the drainage tube. After alternate sinkings and rallyings, she died on the evening of the second day from shock, from which she had not entirely recovered since the operation. There was not the slightest evidence of inflammatory action. The discharge from the drainage tube had ceased, and the wound was healing nicely.

This case is interesting on account of the character of the tumor. "A true fibrous tumor of the ovary is a thing of very rare occurrence," says Wells, and he goes on to say: "It will be found that many cases reported as ovarian fibroids are in reality tumors beginning in the uterus, which overgrow and involve the ovary so as to disguise its natural appearance, or conceal it altogether." Doran says: "I have never found a solid ovarian tumor to be formed of pure fibrous tissue, and strongly suspect that fibroids of the ovary are identical pathologically with fibroids of the uterus. All the solid tumors that I have seen removed at operations have proved to be sarcomatous or cancerous."

Dr. Formad, who kindly examined this specimen for me, sent me the following report: "The solid tumor of the ovary showed, upon microscopical examination, to be a fibroma with decided sarcomatous change—a fibro-sarcoma." A peculiarity of this tumor is its nodular character.

DR. KELLY remarked that true fibroid of the ovary is very rare, and the specimen here presented is not, in his opinion, fibroid, but sarcoma. The only fibroid he has seen was one which he examined last spring. That tumor was about one centimetre in diameter, and, although attached to the ovary, lay in the grasp of an adherent fimbriated extremity, which cast some doubt upon the origin of the small growth. The so-called fibroid appears to be in every way analogous to the "fibroids" of the uterus and broad ligaments and a useful diagnostic expedient is the appearance of bundles of "sympathetically" enlarged fibres coursing from the hilum into the broad ligament.

DR. BAER also presented the specimen and related the history of

A MONOCYST OF THE OVARY.

Mrs. J., aged 29; married four years; sterile. Puberty at 14 years of age, and menses always normal. Seven years ago, she

first discovered that the lower portion of her abdomen was increasing in size. This continued very slowly during the next, three years, and at the time of her marriage it was large enough to be perceptible to her friends. It ceased growing until six months previous to the date at which she first consulted me, April 14th, 1886, when she seemed to be in excellent health; no loss of flesh, no pain, complexion ruddy, and appetite good. Menstrual flow increased, and accompanied with uterine tenesmus during the last two months, and she had begun to complain of pressure and over-distention. When the patient was in the dorsal position, the abdomen did not flatten out, and it was symmetrical and smooth. Dulness on percussion over the anterior and lateral surfaces of the projecting portions of the abdomen, with resonance in the line of the colon. There was marked fluctuation in the dull region. Vaginal examination showed the uterus anteverted, of normal size, not freely movable, yet not closely adherent to the tumor.

Diagnosis.—Probably cyst of the broad ligament, from the long existence of the tumor, its slow growth, symmetrical development, together with the fact that it had not influenced the patient's health during its growth until it had attained such size as to interfere with respiration. Its removal was advised, and the operation was performed at my private hospital April 27th. An incision three inches in length was made. The tumor was rather darker in appearance than is usual in cysts of the broad ligament. It was now tapped, and a dark grumous fluid drained away. The tumor collapsed, and was easily drawn through the incision, when its pedicle was found to consist of the entire broad ligament, and to be very short, holding the base of the tumor deep in the pelvis. I was compelled to enucleate the cyst, leaving a broad open pedicle or surface, which I ligated *en masse*.

An accident now occurred from which the patient almost lost her life from hemorrhage, viz., slipping of the pedicle ligature. The mistake was in endeavoring to make a pedicle of the broad ligament, which had been laid widely open by the enucleation of the tumor, and which was not a proper pedicle. The mass was too great to be held by ligature, and was treated by bringing the edges together by interrupted sutures, of which ten were required. The hemorrhage was checked by grasping the vessels in clamp forceps until the sutures were placed. There were no after-symptoms. The patient is now entirely well.

I call attention to the monocystic character of this tumor, its location in the broad ligament, and to the character of the contained fluid—dark-colored and thick, not clear and limpid as is usual in cyst of the broad ligament proper.

The report of Dr. Formad is: "The cyst is a monolocular one developed from the ovary undoubtedly. Its lining is characteristic of ovarian cysts, epithelial, and whatever scrapings from the

wall could be obtained, showed the ovarian cells of Drysdale. The fluid was dark, grumous, and turbid, which excludes cysts of the broad ligament or parovarium, as the latter kind of cysts have always a limpid clear liquid."

DR. B. F. BAER also presented the specimen and read the history of

A CASE OF "BURSTING CYST OF THE OVARY."

Mrs. E. G. was sent to me by her physician, Dr. James Simpson. She was 47 years of age, and had been married twenty-seven years, but had never been pregnant. Puberty at 14 years, menstruation always painful. She stated that twelve years ago she had felt a "lump" in the left iliac region. This was painful, especially during the menstrual period. In the fall of 1885, the lower portion of her abdomen began to enlarge, and within a few months it had so increased in size as to render locomotion and respiration difficult. On January 1st, 1886, while riding in a street-car, she was jolted in crossing a railroad track. She was at once seized with great pain in the abdomen, accompanied with pallor and faintness. She was taken home and placed in bed. A short time afterwards she began to vomit a fetid fluid, which came up in large quantity, and at regular intervals, and at the same time she passed fluid of the same character from the bowels. The next day, she had, in addition, attacks of profuse perspiration. She also had a slight metrorrhagia, the first evidence of menstrual flow since January, 1884. The abdomen rapidly diminished in size, and within a week had regained its normal dimensions. It was three weeks before her strength had returned sufficiently to permit her to go about. She soon noticed that her abdomen was filling up again, and within a month it had become as large as it had been on January 1st. During the first week in March she was again seized with pain of the same character, and followed as before by vomiting, purging, diuresis and diaphoresis, and reduction of the abdominal distention. All of the symptoms were more marked in the second attack. Six weeks afterwards she was as large as ever, and she then came into my care.

She presented an appearance of great pallor and commencing emaciation; the "facies ovariana" becoming plainly perceptible. She was very nervous and excited for fear of a repetition of the phenomena that had occurred before.

On examination in the dorsal position, the abdomen was rather projecting—not flat, and was larger on the right than on the left side. It was smooth throughout, and gave a dull sound on percussion over the whole anterior surface, resonance existing in the line of the colon. There was marked fluctuation throughout the dull portion. Vaginal touch showed the uterus to be situated high, as if it were drawn upward. It was not freely movable, and the external os too small to admit the sound.

Diagnosis.—Ovarian cystic disease. Immediate operation advised.

On July 22d, the operation was performed at my private hospital. Incision three inches in median line, wall of the tumor thin and dark-colored. The trocar was passed, and the contained fluid, dark in color, drained away. The cyst collapsed and was easily drawn through the incision. The pedicle was short and broad, consisting of the broad ligament, and requiring enucleation of the tumor before its ligation could be accomplished. It was now found that another tumor existed on the left side. This had a peculiar shape, being elongated and deeply seated in the pelvis, as though it were entirely subperitoneal. The peritoneum extended out from the uterus, spreading over the tumor and approaching the abdominal wall as is sometimes seen in a fibroid tumor of the uterus, which has pushed that membrane upward in its growth. The cyst extended along the line of the colon, and at first I was not sure that it was not that organ greatly distended by gas. I soon determined that it contained fluid, and that its general appearance, color, etc., were similar to those of that just removed. It was emptied by means of the trocar of a fluid similar to that of the first tumor, and the tumor collapsed. I hesitated as to the proper course now, because of the large and broad base of this cyst and its close adhesion to the descending colon. I first thought of stitching it to the abdominal incision and inserting a drainage tube into it, and was soon afterwards sorry that I did not follow out my first idea. I began an attempt at enucleation, and this was attended by so much hemorrhage from the large surface which it was necessary to dissect that I was compelled to desist. I had separated at least six inches of the descending colon from the cyst, when I found that the latter dipped down so deeply into the pelvic excavation that I concluded it would be hazardous to finish the enucleation. I was in a quandary, for I had only two-thirds of the lining membrane of the cyst in my control, and I finally did what I was never compelled to do before, and what I may be criticised for doing in this case. I drew up as much of the cyst as was possible, threw a ligature around the mass, tied it as a bag, and cut away the external portion; thus leaving a large quantity of the lining membrane still within the pelvis. The oozing of blood from the large open surface was checked by ligatures and compression forceps until all bleeding had ceased. The toilette of the peritoneum was then made, a drainage tube inserted, and the incision closed. During the next few hours there was a free discharge of bloody serum through the tube, but by the next morning it had ceased. On the third day the tube was removed. The patient made an excellent recovery and went home on the twenty-third day.

The points of interest in the case are: 1st. The bursting character of both of the cysts. 2d. Their monocystic character and prob-

able ovarian origin. 3d. The deep attachment of the one on the left side and its partial removal only.

"Bursting Cysts of the Abdominal Cavity" is the title of a very instructive paper which was read before the Gynecological Society in 1881, by Dr. Wm. Goodell, and in the paper itself and the discussion which followed it was shown that this character of tumor is not so rare as the experience of a single individual might indicate. In addition to the cases which Dr. Goodell himself reported, three in number, there were no less than ten of the members present who had met with cases of similar character, some of the gentlemen as many as six or seven. Only two or three of the cases reported died as the result of the discharge of the fluid into the abdominal cavity. This appeared to prove that the fluid of an ovarian cyst was not so irritating to the peritoneum as had been supposed. Dr. Goodell took the position that these cysts were of the broad ligament or parovarium and not true ovarian cysts, and as a consequence the fluid was bland and unirritating, being readily absorbed and discharged through the emunctories. This view is probably correct for the majority of cases, but there are others where the evidence furnished by operation has proved the origin of the bursting cyst to have been in the ovary. The monocystic character of the tumors in this case and their location beneath the peritoneum, within the folds of the broad ligament, would seem to indicate that they originated in the parovarium and not in the ovary; but the character of the fluid and its rapid secretion are in favor of an ovarian origin. An interesting feature in this case is the fact that the fluid was discharged by vomiting and purging, as well as through the bladder and skin, showing that it must have been emptied into the abdominal cavity as well as into the intestinal tract. From the close attachment of the tumor on the left side to the colon, it is probable that this cyst discharged itself into that organ, and was thus thrown off by vomiting and purging; while the fact that diuresis and diaphoresis took place at the same time in such quantity, and that the abdominal distention entirely disappeared, would lead to the conclusion that both cysts must have burst simultaneously, the one discharging into the bowel, the other into the peritoneal cavity. This is interesting if true, and probably unique. At least I have not been able to find a record of a similar case. I examined this patient recently, and found only a slight induration on the left side. She has been quite well.

DR. HARRIS mentioned a case of bursting cyst that had been sent to Dr. Atlee for operation after the cyst had burst once and refilled. The day had been fixed for operation, but menstruation coming on, a postponement was made, and the cyst again burst, and the woman died in collapse. Ovarian tumor had been diagnosed.

DR. PARISH reported a case of rupture of an ovarian cyst which

occurred in the "old woman's ward" at the Philadelphia Hospital. The rupture was spontaneous while the woman was in bed; she died in a few minutes from shock. In another instance, in which rupture had not been suspected, one cyst, the contents of which were colloid, had burst; another ovarian cyst was found and removed. There was no evidence of acute inflammatory action.

DR. BAER exhibited a

FIBROID POLYPUS OF THE UTERUS.

The patient had suffered from metrorrhagia for two or three years. Labor-like pains were followed by spontaneous expulsion of the tumor, which was supposed by three physicians to be an inverted uterus; it was replaced in vagina and tamponed. Dr. Baer found the uterus in normal position, and removed the tumor by means of the spoon-saw.

TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF CINCINNATI.

Stated Meeting, September 16th, 1886.

The President, J. L. CLEVELAND, M.D., in the Chair.

DR. JACOB TRUSH reported the following :

A CASE OF EXTRAUTERINE INTERSTITIAL PREGNANCY.

On the 22d of September, 1885, I was called hurriedly to Mrs. L., said to be dying. I found her pale, with feeble pulse, and lying where she had dropped, across the bed. She had been about the room attending to some household duties, when suddenly she was seized with a most "excruciating" pain in the lower part of the abdomen; almost immediately everything turned dark before her, and she had just time to throw herself upon the bed when she fainted. Some outcry or noise she made attracted the attention of a servant in the adjacent room, who, finding her mistress unconscious, reported her dying; the syncope, however, had disappeared before my arrival. On return to consciousness, Mrs. L. had vomited freely, and then again experienced that intense sickening pain in the abdomen that had marked the onset. To afford relief as quickly as possible, a hypodermic injection of morphine, one-fourth grain, was made, and after the pain had been thus somewhat subdued, Mrs. L. gave additionally the following account of herself: Her last confinement, the fifth, had taken place the 16th of March, 1885, she had nursed the child at the breast, but, as usual, found her supply of milk scanty and inadequate. Two months

later, viz., about the third week of May, she menstruated again for the first time since her confinement, an event also usual with her. In June, the flow returned at the proper time, and was in every respect normal; it was the same in July, except that she experienced some pain in the region of the womb, an exceptional feature with her, and that the flow was rather more profuse than usual. In August also, the flow was on time, but very profuse and still more painful than in July, and now, on the 22d of September, the "changes" were due again, but so far she had only seen the merest show. In relation to the question whether she had been sick at stomach at any time before this attack, she stated that she had been thus afflicted more or less during the greater part of August and September. Proceeding now to examine the patient, I found the entire lower part of the abdomen abnormally sensitive to touch, ascertained, however, bimanually that the left horn of the uterus, and adjacent portion of the corresponding broad ligament were the real seat of the tenderness, and likewise the seat of a considerable tumefaction; there was now no discharge of any kind from the uterus. The pulse was feeble and moderately accelerated, ranging between 90 and 100 per minute; pain in the abdomen constant, but marked by irregular exacerbations; complaints of distressing nausea, and cannot bear to have her head elevated, feeling she should faint at once, were it done. I had here, so it appeared to me, unmistakable symptoms of a localized inflammation, probably a cellulitis and peritonitis combined, and at the same time those of an acute loss of blood, as expressed in the very marked state of collapse. No external hemorrhage being discernible, necessarily it must be internal, and most likely derived from some varicose vessel in or about the pelvic swelling. To arrest this supposed internal hemorrhage, and also to subdue inflammation and relieve pain, I prescribed ergot and morphine internally, and cold (ice-bags), locally to abdomen. As the stomach rejected everything, even small drinks of ice-water, the drugs mentioned were administered hypodermically, the ergot in full medicinal doses, and the morphine in sufficient amount to keep down pain. This latter drug had the further good effect of subduing the gastric irritability, thus enabling the patient to take a little bland nourishment—milk and lime-water. The progress of the case under this treatment was so satisfactory that by the end of the week convalescence seemed fairly established. This, however, proved a mistake, for on the evening of the eighth day the patient experienced another seizure, similar in all respects to the first, only somewhat less intense. As the utmost quietude of both body and mind had been observed throughout the week, I was at a loss to account for the recurrence of these alarming symptoms. At this juncture a consultation was suggested, and it was decided to call upon Dr. C. D. Palmer to meet me next day. Dr. Palmer, after having been made acquainted with the history of the case, and having made as

careful an examination as the condition of the patient would permit, gave it as his opinion that a pelvic inflammation, with its principal focus at the left horn of the uterus, was undoubtedly in progress, he having observed the very decided tumefaction at this point, the exquisite tenderness, and had also noticed a very marked pulsation along the free border of the ligament. He held that it was impossible at this time to determine whether the symptoms witnessed in the case were due solely to an acute inflammatory process, with, possibly, some intra-pelvic hemorrhage, or whether pregnancy—extrauterine, most probably—existed as a complication. He advised continuance of the present treatment, and in addition suggested the application of fly-blisters over the seat of the pelvic swelling. Some medication per os was also suggested and tried, but the patient could not retain it. Again the pain disappeared, and the tenderness to touch largely subsided, but not so the nausea. Without a hypodermic injection of morphine morning and evening—one-eighth grain each time—nothing could be retained upon the stomach, and even with an empty stomach the nausea was, most of the time, exceedingly distressing; but when thus lightly under the influence of the narcotic, milk and lime-water were well borne, and taken in considerable quantities. Owing to the persistence of this nausea, patient frequently remarked that she should consider herself pregnant had she not been regularly “unwell” every month since May, for it was the same old sickness of the stomach that had tormented her in all her pregnancies.

These sensations on the part of the patient, together with the view expressed by my consultant, were a sufficient incentive to induce me to make a number of careful bimanual explorations of the parts involved; the tenderness as stated having greatly subsided, these explorations were now much more satisfactory than on previous occasions, and elicited substantially the following:

The swelling is undoubtedly somewhat larger than at the time of the consultation, ten or twelve days ago; its greatest prominence is located about the junction of the left ligament with the uterus; from this point a rapid declination to the left is perceived; the growth with patient in dorsal decubitus does not quite reach the left lateral wall of the pelvis. Toward the right, the slope is much more gradual; the right horn and its immediate vicinity are decidedly flat and devoid of all abnormal sensibility. No sulcus can be detected at any point between the left side swelling and the uterus, the contour being everywhere smooth and uniform. In consistence the tumor is quite firm, indistinctly elastic, and about the size of an average fetal head, considerably flattened from before backward; the arteries at the most dependent and most prominent part of the swelling are beating vigorously, while at the free border of the right ligamentum latum the pulse is just faintly perceptible. The assemblage of symptoms and signs just detailed,

it seemed to me, pointed certainly very significantly to the existence of an *extrauterine pregnancy*, most probably tubal.

In any event, I felt sure that, with the regular recurrence of menstruation, and in the presence of the comparatively undeveloped right side of the uterus, a normal intrauterine pregnancy might be safely excluded from the diagnostic problem. With this view of the case, the manifest therapeutic indication was to endeavor to arrest the growth of the ovum before a fatal rupture should have taken place, which, after the paroxysms I had witnessed, was, I conceived, greatly to be feared.

This object, in the light of recent experience, was doubtless most readily attained by faradization. Accordingly, a Fleming & Talbot induction apparatus—the physician's battery—was brought into requisition, and the primary current passed through the tumefaction from without inward, *i. e.*, the positive pole was applied upon the abdominal surface, over and somewhat in front of the swelling, and the negative in the vagina, behind the most prominent part of the enlargement and close up to the uterus. These applications were made once per day, of ten minutes' duration each, to the number of seven, extending from the 11th to the 17th of October inclusive. At first rather feeble currents were employed, but finding that no untoward symptoms arose, the strength was later rapidly increased to near the full capacity of the battery. The only change discernible in the tumor after this series of applications was a slight diminution in the force of the pulsations, but no decrease in size; the nausea, however, seemed less urgent, one hypodermic injection per day being now usually sufficient. The changes being thus slight and equivocal, I was led to believe that the electrical treatment had not been sufficiently energetic, that the ovum was probably still growing, and that the danger before mentioned had not yet passed away. A second trial of this agent was therefore decided upon, with the resolve to push it to the utmost limits of tolerance or fullest capacity of the apparatus.

To this end the cell was refilled and the battery in other respects put in the best possible working order, and then fourteen more applications made at the rate of two per day, again of ten minutes' duration each, but this time about half the séance was occupied in passing the slowly interrupted current. These currents were exceedingly powerful and almost unbearable in my hands, yet gave the patient no discomfort beyond a moderate burning sensation upon the abdomen. I had again, during the week of electrical treatment, avoided making any special explorations, in order to appreciate the more readily any possible changes on its conclusion. The patient's general condition all this time had steadily improved; the nausea had subsided, and food was retained without hypodermic injections of morphine; patient felt stronger and could be raised to a half-sitting posture without fainting or disagreeable

sensations of any kind. Locally, the changes which had occurred since the last examination were quite marked and of an unlooked-for character. The swelling in the left horn was found to be very much smaller, as well as softer, the tenderness had all but disappeared; to make up for this diminution upon the left, the right side of the uterus had suffered a most extraordinary enlargement, in a manner to make the organ appear almost symmetrical, yet devoid of all abnormal sensitiveness on palpation. Now, for the first time, the thought of an "*interstitial*" pregnancy flashed upon me, and also the further thought that, in all probability, the electrical treatment had been instrumental in forcing the ovum downward into the uterine cavity. As no external hemorrhage was visible, and no symptoms of an internal loss of blood were apparent, it seemed reasonable to presume that the placenta had not been detached, and that hence the pregnancy, if the fetus was still living, might possibly continue, as in Garrigues' case—*Medical News*, vol. 47, p. 549—to the normal end; or, if dead, then an early abortion would be the prospective event. Manifestly, I could not be positive upon these points; the theory, however, seemed plausible, and afforded a more satisfactory explanation of the changes observed than any other hypothesis I could formulate.

From this time onward, Mrs. L. progressively improved; her appetite returned, and digestion was fairly well performed; presently she began to sit up, then to walk about the room, and by the middle of November she felt herself strong enough to resume the supervision of her household. About this time, I made one more examination of the pelvic organs and found them apparently in the same condition as at the previous exploration, the last of October. Three months thus passed without disturbance of any kind to the health of Mrs. L.; she did not menstruate and yet, as she expressed it, she was not growing any larger. On the 16th of February (1886), however, she sent for me and informed me on my arrival that for a day or two she had experienced more or less pain in the small of the back, and that now her sufferings had assumed something of the character of labor pains; she had seen no "wasting," nor flow of any kind. On digital exploration, I readily perceived a tense membranous pouch in the os tincæ; the uterus was hard and evidently in a state of active contraction; it seemed to me larger than at the last examination in November; this, however, might have been apparent only and due to its greater firmness now than at that time. Patient's complaints of her sufferings were so urgent that I gave her a dose of morphine, with, however, but little effect in mitigating pain, and the expulsive efforts continued without interruption and were so energetic that within two hours the entire contents of the uterus were expelled "*en bloc*," and proved to be an exceedingly flaccid ovum, wholly intact, and representing in development a three or three and a half

months' gestation. The membranes were of a light-brown color, thick and tough; the placenta yellowish-gray, bloodless, about two and a half inches in diameter. The liquor amnii, on section of the membranes, was found to be highly turbid, of a dark chocolate color, and, together with the fetus, filled the membranous sac to less than one-half its full capacity. The fetus was fully formed in all its parts, only sex not yet fully differentiated; the integument was of a light-brown color and of a firm, leathery feel. Immediately upon the expulsion of the ovum, a slight gush of blood occurred, and a trifling lochial flow was noticed for a day or two thereafter; subsequently all discharge ceased.

Mrs. L., after this, kept her bed for a week or ten days and then went about her usual household work. She menstruated again in April and May, but missed in June. Shortly she began to be troubled with nausea, and hence supposed herself pregnant anew. About the middle of July, she was badly frightened and next day noticed a slight flow of blood from the womb; also experienced some pain in the back. Being applied to for aid, I gave her anodynes, kept her quiet, had her take her food and drink cold, required her to abstain from the use of all stimulants; but all to no purpose: on the night from August 3d to 4th, the pain in the back rapidly grew worse, and the hemorrhage became so profuse (it had never entirely ceased) that I found it necessary to hasten the now inevitable abortion, which I did by removing an already detached ovum from the uterine cavity. It was about the size of a small orange, with the chorion frondosum well expressed, and presented in every respect an appearance of freshness. Another week's rest in bed and Mrs. L. was upon her feet again. Before removing the ovum, I had carefully explored the outlines of the uterus to learn if anything like the asymmetrical condition of last year was present, but everything was found of normal shape. This second pregnancy and abortion is, of course, mentioned merely as a comparison to the first.

A few words more by way of explanation and comment: Touching my early diagnosis of a simple cellulitis-peritonitis and an attendant intra-pelvic hemorrhage, it is evident to me now that this was in a measure erroneous, and that the phenomena of the initiatory seizure, as well as those of the second attack, were doubtless due to a partial rupture of the left tube and hemorrhage from this cause, the growing ovum having previously already excited a certain degree of inflammation. Once my attention having been directed to the probable existence of an extrauterine pregnancy, I found abundant and to me sufficient evidence, both in the general symptoms and the local signs, to justify this diagnosis. I should perhaps have made use of the sound which I am aware is recommended in such instances as a diagnostic means. I abstained from its use, first, because I believed the evidence of the bimanual explorations to be conclusive on the one point at least, viz., that the ovum could

not be normally located; in the next instance, because I had very little faith in the diagnostic utility of the instrument for the purpose in question, for I knew I had more than once before now unwittingly passed the sound into the uterus to the extent of three and three and a half inches, turned the point to right and left, and on the strength of such evidence had declared the uterus to be empty, when subsequent events proved most positively the contrary. As stated in the report, the electricity was employed for the purpose of arresting the further growth of the ovum, *i. e.*, destroying the life of the fetus, and thus prevent a possibly fatal rupture of the tube, and not with any view or expectation of propelling by this means an extrauterine ovum onward into the uterine cavity. The result witnessed after the second series of applications was a surprise to me, and at the same time convincing proof that the ovum could not have been located in the tube outside the uterus, as I had supposed, but evidently had had its seat further inward, in the interstitial portion thereof. Doubtless, an ovum thus situated may, and does, at times, gradually grow, without foreign aid, into the uterine cavity, to be expelled, at the normal end of gestation, *per vias naturales*; a difference of half an inch further out- or in-ward may here mean either the gravest of dangers, or a harmless anomaly. In the one instance, the physician should abstain from all interference; in the other, he must act with the utmost promptitude; but who can decide at the bedside on which side of the line the ovum is situated? I take it that the practitioner in all such instances must act upon strong probabilities, and give the patient the benefit of the doubt. One point more and I am done: Seeing that fully three and a half months elapsed from the conclusion of the electrical treatment until the occurrence of the abortion, the question might be raised, if it were not possible that the ovum expelled in February might have been the product of a conception subsequent to the patient's recovery. Such query, I am convinced, may be safely answered in the negative. Leaving out of count, for the moment, the physical peculiarities of the ovum, which assuredly were not those of a fresh specimen, I am cognizant of the fact that this lady's husband went away on a six weeks' business trip before she was able to sit up, and actually did not return until a few days before Christmas; besides, I have the positive assurance of the gentleman in question that no sexual intercourse took place between himself and wife until after his return.

DR. PALMER, who had seen the case once in its earlier history, by request of Dr. Trush, regarded it at that time as somewhat obscure. He felt quite positive that there was pelvic cellulitis present in the region of the left broad ligament. This opinion was based upon the pelvic pains, the fever, localized tenderness, and tumefaction at the side of the uterus. The uterus was somewhat enlarged; pregnancy was suspected, whether intra- or extra-uterine was uncertain at this period. The question of the possi-

bility of the existence, not only of pelvic cellulitis, but pelvic hematocele and extrauterine pregnancy was considered and discussed.

The verdict then, as stated, was pelvic cellulitis, with possible pregnancy. The cellular inflammation might explain all of the localized swelling, but the pronounced symptoms of shock and great pelvic pain were suspicious of either hematocele or extrauterine pregnancy.

No doubt the faradic electrical current killed the fetus, for its size at the time of its expulsion corresponded to its development at the time the agent was so vigorously employed.

Cases of interstitial tubal pregnancy no doubt exist; and it is also true that an ovum so located may be forced within the uterine cavity, and be delivered in the natural way. A number of such instances have been reported, some of them being reliable. But as the conclusive proof, in some of them at least, is wanting, the true condition remains a matter of dispute. It is not unfair to say that not a few of these cases have been mistakes of diagnosis, the ovum all the time having been within the uterine cavity.

Dr. Lenox Hodge suggested, and successfully put into execution, the plan of dilating the uterine canal in a case of recognized interstitial uterine pregnancy, and then breaking the intervening wall with the fingers, so that delivery was effected in the ordinary way. Whether this case of Dr. Trush was one of tubo-interstitial pregnancy, I think, is very doubtful, and I believe my friend does not feel positive with his diagnosis. That position taken is largely assumed on account of the lateral pelvic tumor or swelling, which remained for awhile, and then disappeared.

May not all this be explained on the ground that it was inflammatory, and that it subsided in time; the treatment, even the electricity, assisting in the favorable change?

Dr. Palmer added that his criticism of the diagnosis proposed was based upon a *full* history of the case as read by the essayist. He had no intention of criticising the treatment, which necessarily was based upon the diagnosis of the case at the time it was instituted. Under the same circumstances, he himself might have used the electrical current.

In reply to some of the remarks made, he would say that it is by no means impossible for intrauterine pregnancy to continue, the fetus in the mean time developing, when uterine hemorrhage, more or less severe, does occur at irregular intervals from the beginning. Quite recently he had delivered a woman of a fetus of over five months' development, wherein hemorrhage, at times quite severe, had continued since the second month of gestation. There was no disease of the cervix.

Again, it is said that the pulsation of the lateral tumor was indicative of conditions other than inflammation; but a peritoneo-cellulitis does at times pulsate most distinctly.

Notwithstanding the symptoms at the onset were suspicious of a hematocele or extrauterine pregnancy, they were not inconsistent with the ushering in of a pelvic inflammatory attack.

DR. GILES S. MITCHELL said he could not agree with the opinion expressed by the last speaker, that the case reported was simply one of intrauterine gestation. All of the symptoms of pregnancy were present save absence of menstruation. The patient continued to menstruate regularly and copiously. Normal pregnancy

always arrests the catamenial flow. He was well aware that cases are reported of women who menstruate regularly during pregnancy, but in all such cases the flow is scant, and continues only during the early months. However, in the case reported, the woman was the mother of several children, and during all previous pregnancies menstruation was arrested. Extrauterine gestation during the earlier months is extremely difficult of diagnosis. The case, as reported this evening, however, manifested all the signs, both objective and subjective, of tubal pregnancy. The essayist was certainly to be congratulated upon the happy result of his treatment. The method of faradization employed was simple, safe, and efficacious.

DR. WRIGHT confessed that, although the case was not devoid of interest, it did not strike him very forcibly as an instance of extrauterine pregnancy. In his opinion it was simply a case of ordinary intrauterine pregnancy, complicated with either a pelvic cellulitis or hematocoele. There was nothing extrauterine about it.

DR. WENNING remarked that, although there were some points about the case which rendered the existence of extrauterine pregnancy doubtful, he was not so willing to exclude this possibility so peremptorily as the previous speaker had done. The gentleman who had reported the case was sufficiently well known to the members that he did not jump at conclusions very hastily, and some of the symptoms, especially in the latter part of the history, were of such a character as to render the existence of an extrauterine pregnancy at least probable. Perhaps it was just the lucky termination of this case in an accident which ordinarily is of exceeding gravity, that led others to doubt the correctness of diagnosis. The speaker would admit that he had always looked upon the conversion of an extrauterine pregnancy into an intrauterine one, by the application of the faradic current, as highly problematical, and yet it seems that in the case reported just this point was brought out with the greatest clearness. The essayist stated that "the right horn and its vicinity were decidedly flat and devoid of all abnormal sensibility," whilst on the left there was "a tumor, firm, indistinctly elastic, and about the size of a fetal head." This asymmetry of the uterus disappeared after the repeated applications of the electric current, and the right side then showed the same degree of development as the left side of the uterus. The essayist assures us that this difference in contour was not apparent, but real. It must also be remembered that with the appearance of the outline of the ordinary, symmetrical form of a pregnant uterus, the symptoms of extrauterine fetation disappeared. The earlier symptoms in the case might just as well have been due to a pelvic cellulitis or an hematocoele, as suggested before, but this fact of subsequent swelling of the *right* side of the uterus would prove most conclusively that the fetus had descended from near the tube into the uterus.

DR. TRUSH, in closing the discussion, said he had already stated in the report that the idea of an interstitial pregnancy did not occur to him until after the second series of electrical applications, when he discovered those very marked changes both in the left-side swelling and in the right horn of the uterus. Being unable satisfactorily to account for these manifestations upon any other supposition, he concluded that this variety of pregnancy must have been present. The fact that no hemorrhage took place, and that the abortion did not occur until nearly three and a half

months later, had seemed to him conclusive that for the time being the placenta had retained its original attachment, to be severed later by the gradual process of fatty degeneration. Once the entire ovum a foreign body, it was expelled. In the mean time the tubo-uterine orifice had doubtless suffered a progressive dilatation, which, however, judging from the phenomena he witnessed at the time of the abortion, need not have been very large, viz., the cervix had been just fairly passable for two fingers when the ovum came away, and he was much surprised at the occurrence with so limited a degree of dilatation; it was, of course, owing to the excessive flaccidity of the sac that the expulsion at this early moment was rendered possible. Something of a similar condition might have existed in the ovum at the time of the supposed transposition of its membranous portion and contents from the tube to the uterine cavity.

It had been suggested by one of the speakers that the changes alluded to might have been the result simply of absorption of an inflammatory exudation upon the left, and that the uterus, in consequence of such disappearance, had *seemed* larger than before. He could not accept this explanation as either satisfactory or probable, for, whilst it might account for the decrease in the left-side swelling, it failed entirely to explain the sudden enlargement upon the right; it should not be forgotten that he had repeatedly palpated the region of the right horn, and had found it flat and comparatively undeveloped prior, and very much larger after, the treatment mentioned. Neither should the fact be ignored that the patient had menstruated profusely in July, and that the flow was alarmingly profuse in August, and yet no abortion took place. He wanted to know if it were thought at all probable that these copious hemorrhages could take place and not result, at such early period of gestation, with a normal location of the ovum, in abortion. He thought not. After all, interstitial pregnancy converted to normal, intrauterine was not such a rare event. Dr. Garrigues had been able to find, aside from the case already cited, ten others of this character in the medical literature.—*Am. Gyn. Soc. Rep.*, 1882. Dr. McBurney had had such a case.—*New York Med. Jour.*, March, 1882. Dr. Mundé had seen another.—*AM. JOUR. OBS.*, vol. XII., p. 330, and in the same paper this writer referred to three more instances of this kind, viz.: one each by Poppel, Spiegelberg, and H. Lenox Hodge.

A GYNECOLOGICAL CABINET.

DR. WENNING exhibited a gynecological cabinet which he had lately devised, in company with Dr. Geo. E. Jones, and which he had found to form the most convenient, compact, and cleanly receptacle for instruments, medicines, etc., that he had thus far seen. In outward appearance it resembles a lady's writing desk, the upper portion covered by a roll top, concealing the bottles and jars which contain the substances for local medication, whilst the lower portion consists of four drawers and a side closet for instruments, cotton, basins, etc. When the roll top is thrown back, a number of small drawers and shelves, and underneath these three rows of bottles (one dozen tinctures and one dozen salt-mouths) with intervening space for jars, etc., are brought to view. The tiers containing the bottles, etc., may be drawn forward separately so as

to bring the latter conveniently within reach. Below these there is a large slide or table, covered with heavy French plate glass, which may also be drawn out to hold such instruments, etc., as are just then in use. The smooth, polished surface of the glass prevents any stain by blood or chemicals, and may be easily cleaned.

The speaker added that he had now used this cabinet in his daily office practice for several months, and had found it to serve admirably the purpose for which it is intended.

TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF LONDON.

Wednesday, October 6th, 1886.

J. B. POTTER, M.D., *President, in the chair.*

Specimens—The following specimens were shown:

1. Dr. Malins. *A dermoid ovarian cyst.*
2. Dr. Lewers. I. *Microscopical sections of a uterus affected by malignant disease.*

II. *A fetus from a ruptured tubal cyst successfully removed through Douglas' pouch.*

3. Dr. J. Phillips showed *an ovum expelled thirty-four days after conception.*

4. Dr. R. Boxall exhibited *the thoracic viscera of a woman who died in childbed with symptoms of pulmonary thrombosis, due to dislocation of the heart into the left pleural cavity.*

5. Dr. W. Duncan and Mr. W. B. Sutton showed *the ovaries and tubes from a case in which there was a hematocele due to rupture of the left ovary.*

Also a pair of ovaries removed for the cure of dysmenorrhea.

FOUR CASES OF RUPTURED UTERUS.

DR. G. SWAYNE gave four cases of ruptured uterus occurring in his practice. Two were incomplete and two complete cases of rupture. The first occurred about the middle of utero-gestation, and was not clearly traceable to any accident. The uterus appeared to have given way during the effort to expel a putrid five months' fetus. The woman died undelivered and a laceration was found in the anterior wall of the uterus, through which the child had passed, so that it lay between the uterus and bladder in a pouch formed by the peritoneum reflected from one to the other. In the second case, labor had been induced at eight months, and the rupture had apparently arisen from a transverse presenta-

tion and the spontaneous expulsion of the fetus in a doubled state. In neither of these cases was the peritoneum torn. The third case was one of complete laceration, and the accident took place during the course of an ordinary labor at full term, in a woman with slight pelvic deformity. She was delivered by craniotomy, but died on the fifth day after delivery. The fourth case was one of complete rupture, and occurred in a multipara during an ordinary labor. The child, which had partly escaped into the abdomen, was delivered by turning. Laparotomy was performed, the abdomen was thoroughly cleansed, and the wound in the uterus united by several sutures. Death took place within an hour afterwards.

CASE OF RUPTURE OF THE UTERUS.

By RICHARD COX, M.D.—A multipara, aged 38, was taken in labor at 8 A.M. on May 2d, and was attended by a midwife. Till 3 P.M. everything had appeared normal. Suddenly then the patient screamed out, and became faint and sick. The expulsive pains ceased, but an agonizing pain in the abdomen was complained of. Dr. Cox was sent for, and being from home arrived about 6:30 P.M. The patient was then moribund. After administering some stimulant, Dr. Cox passed his hand into the uterus, which was empty. Finding a rent of five inches in the anterior wall of the uterus, he was able to seize a leg and bring the child back from the abdomen, together with the placenta, and to deliver them pretty quickly. There was some difficulty with the head, which was arrested at the brim by a slight contraction. The patient died shortly afterwards. She had had previous natural confinements.

DR. BRAXTON HICKS said that so many points presented themselves that it was difficult to select, but he thought, when delivery had been effected and the uterus was found paralyzed, when the rent was so large that a prolapse of the intestines occurred through the rent, that in such a case the best plan was to perform Porro's operation rather than to leave the case to its almost inevitable fate.

DR. HORROCKS thought operations per vaginam difficult, if not impossible, to carry out, and that abdominal section seemed the only method offering any hope. The question between carefully stitching up the rent or removing the uterus should be decided after carefully examining the site and size of the rupture, and more particularly the condition of the torn parts. If the laceration was severe, as usually was the case, Porro's operation would be best. If the edges were clean cut, they might be carefully brought together by sutures.

DR. ROUTH said that, while agreeing with Dr. Braxton Hicks, there was another rule not one whit less important. When the case was ascertained to be one of rupture of the uterus, it was an unnecessary piece of cruelty or malpraxis to attempt to extract the child per vaginam, irritating the bowels with your hand, and running the risk of enlarging the tear in the uterus or increasing hemorrhage and shock. The rule should be to proceed at once to abdominal section. Whether in cases of the tear being very rag-

ged Porro's operation were preferable to sewing up the uterus might admit of question, but in any case the child should be extracted without delay by abdominal section, and not per vaginam.

DR. GALABIN thought that, notwithstanding the improvements in modern surgery, rupture of the uterus involving the peritoneum would always be a very fatal accident. He had no doubt that, in cases where the child had escaped through the rent and the patient's condition permitted any interference, the operation should be abdominal section, and not removal of the child by the vagina. The empty and partially contracted uterus would occupy more of the pelvic diameter than when stretched over the fetus, and extraction through the pelvis might be difficult, and increase the injury to the soft parts. He thought Porro's operation would be rarely advisable, as in all the cases he had met with, the rent had commenced in the vagina or lower segment of the uterus, and in such cases it would be impossible to remove the whole rent by Porro's operation. Where the rent was higher and ragged, Porro's operation might be advisable.

DR. CHAMPNEYS thought every one must agree with Dr. Routh that, after the diagnosis of rupture of the uterus and escape of the fetus is once made, no attempt should be made to extract the fetus per vias naturales, nor should any second person examine per vaginam. He thought that Porro's operation, taking advantage as it had of all the latest antiseptic improvements, had been compared with the old-fashioned, not aseptic, Cesarean section, and to the advantage of Porro's operation. The recent improvements in the Cesarean operation by Säger, who uses numerous deep silver sutures and superficial silk ones, so as to leave no communication between the uterus and peritoneum, had shown that the comparison was fictitious. He doubted whether Porro's operation should in any case be preferred, as part of the rent is so frequently below the line of amputation, not to mention the additional injury caused by it.

PAPILLOMA OF THE FALLOPIAN TUBE, AND THE RELATION OF HYDRO-PERITONEUM TO TUBAL DISEASE.

The author, MR. ALBAN DORAN, said that, although papilloma of the Fallopian tube is a rare disease, it may exist and produce marked symptoms. The papillary growth may represent, not so much a true tumor, as a product of inflammation. It is at least not malignant. In this disease a pelvic tumor which may extend into the hypogastrium always exists. Pain does not appear to be essential, and where present is possibly due to other disorders.

Two cases, both under the author's observation, are described. In one case, the affected tube was closed, the symptoms were entirely pelvic, and no hydroperitoneum was present. This case showed that papilloma of the tube may simulate hydro-salpinx. In the other case, the ostium of the tube remained patent, and hydroperitoneum persisted till the diseased tube was removed. There was positive evidence that secretion escaped from the ostium.

For reasons given at length in the paper, the latter case suggested that the disease described as hydroperitoneum, and understood to signify effusion into the cavity of the peritoneum due to

disease of that serous membrane alone, may frequently, though not invariably, be due to mild chronic catarrh of an unobstructed Fallopian tube.

The discussion of this paper was deferred until the next meeting of the Society.

ABSTRACTS.

1. Slavjansky: Rupture of the Uterus; Porro's Operation; Recovery (*Annales de Gynéc., 1886*).—This paper includes the report of a case of rupture of the gravid uterus with escape of its contents largely into the peritoneal cavity, amputation of the uterus after Porro's method, and recovery of the patient. There are but seven similar cases on record, and in all of these the mother died. The essentials of the present recorded case are: The history of the patient—sudden hemorrhage and collapse—pointed strongly to traumatic rupture of the gravid uterus. In deciding as to the operative treatment, S. determined against version and delivery by the vagina, because, whilst it was an easy matter to seize a foot and turn and deliver, it was impossible to determine the site and extent of the rupture, and therefore, although version would be easy, there would be strong probability of the patient succumbing to hemorrhage or sepsis. Laparotomy was evidently indicated, particularly since it was probable that the fetus had largely escaped from the uterus. S., hence, determined on an exploratory incision with the intention, in case he found that the fetus had not passed into the peritoneal cavity, of sewing up the abdominal wound and delivering by version. Section revealed partial escape of the fetus and a transverse rupture of the uterus near the fundus. The edges of the rupture site were completely everted, the placenta firmly adherent. Owing to these unfavorable conditions, S. immediately performed the Porro operation. The patient convalesced well. S. remarks that the prime indication for amputation of the uterus in this case was the eversion of the edges of the uterine rent, and he is of the opinion that in similar cases Porro's operation is preferable to the classic Cesarean section, even though the results from the latter, when performed according to the improved methods of to-day, are superior to the former. His opinion of the two operations, however, when broadly compared, is suggested by the general deduction with which he concludes—"one case resulted favorably, and, hence, we are prevented from denying the advantages possessed by the utero-ovarian amputation in certain cases."

E. H. G.

2. Muratow: Laparotomy for Extrauterine Pregnancy; Removal of the Sac and Escape of the Foot (?) (*sic*) into the Peritoneal Cavity (*Centralblatt f. Gyn., 1886*).—According to M., laparotomy in case of extrauterine pregnancy, with removal of the sac and sinking of the pedicle, has only been performed four times in addition to the case reported in this paper: once by Litzmann, twice by Kusnezew, and once by Sutugin. The essentials of M.'s case are: L., æt. 31, three children, and one questionable miscarriage. Last delivery two and one-

half years. Entered hospital at Moscow with the diagnosis of ovarian tumor. Patient had recently recovered from an attack of acute peritonitis. On examination, the abdomen was found enlarged by an elastic tumor, not fluctuating, movable from right to left. The uterus was retro-sinistroverted, not enlarged, depth of cavity seven and a half centimetres. Motion imparted to the tumor did not affect the uterus. The contents of the tumor could not be surmised from vaginal or rectal examination. To the right and posteriorly to the uterus, a parametric exudation. The patient said she had noticed the tumor for two and a half years, and had suffered from severe irregular abdominal pain. The diagnosis of left ovarian cyst was concurred in. The abdomen was opened, and a dark-red elastic tumor exposed, adherent to bladder, uterus, omentum. Both ovaries were in normal position. The pedicle of tumor lay in the left broad ligament. The tumor was aspirated, giving exit to a large amount of fluid, and the finger introduced in the sac came upon a fetal hand. A seven months' fetus was removed, macerated, the sac cut off, the pedicle carefully tied and dropped, the abdominal cavity carefully cleansed, and the wound closed. The removed sac proved to be tubal in character. The patient convalesced slowly, pelvic abscess complicating.

In his remarks on this case, M. says that it exemplifies markedly the difficulty in differential diagnosis between ovarian cyst and extrauterine pregnancy. There existed absolutely nothing in the history or physical findings to suggest the possibility of ectopic gestation. It is also noteworthy that in this case the gestation was tubal and yet advanced nearly to term, and did not rupture; the patient never was conscious of fetal movements; although under observation, the fetal heart was never heard; careful palpation failed to reveal fetal parts; the patient menstruated with her accustomed regularity.

E. H. G.

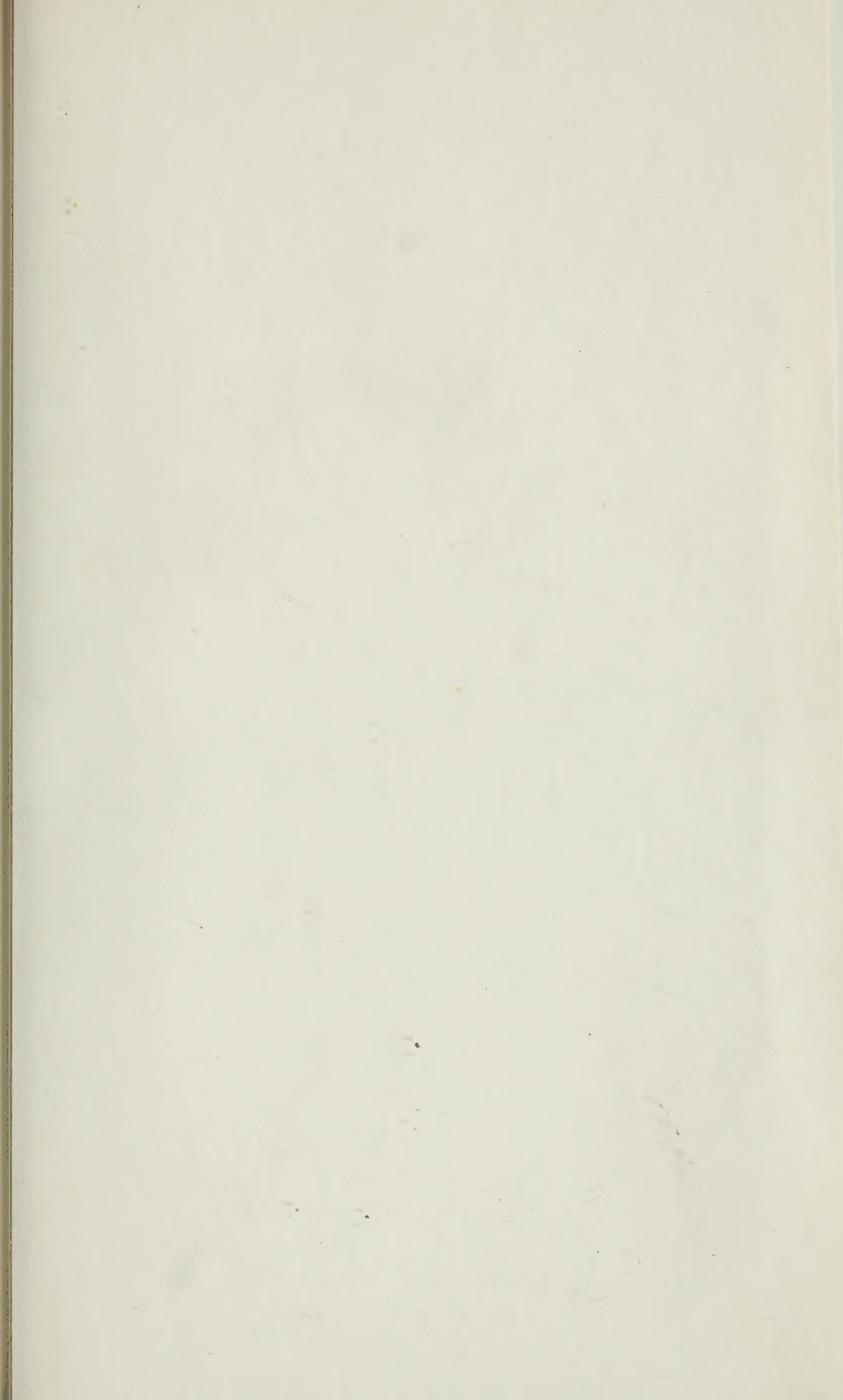
3. Sebileau: On Intestinal Disturbances after Abdominal Operations (*Annales de Gynécologie*, 1886).—In this paper, S. pictures the disturbances from the side of the intestinal canal, which may complicate convalescence from an abdominal operation. Usually after, for instance, an ovariectomy, there occurs vomiting for a variable period, the result of the prolonged anesthesia, and the effect of the anesthetic on the stomach, and gaseous eructations, the result of a paresis of the intestinal canal. This paresis, if of short duration, is the cause of no anxiety, simply a source of discomfort to the patient, and this picture may be called the benign type of post-operative intestinal complications. At times, however, the eructations are frequent and of longer duration, as also the nausea and vomiting; the abdomen becomes distended and tympanitic; the patient is only comfortable when under the influence of opium, respiration is impeded, there exists air hunger, the eyes are sunken, the facies tired. Such is the picture of the mean type of intestinal disturbance. Here, frequently, the introduction of an anal catheter, or irrigation of the bowel, or purgation (gentle), by giving free exit to the intestinal gases, will relieve the patient. In certain cases, however, all therapeutic measures fail, the patient grows weaker as the symptoms increase in severity, and towards the tenth day the patient dies. This is the type of intestinal disturbances of the worst possible omen. These three types S. exemplifies by the recital of cases from the service of M. Terrillon at the Salpêtrière. At the autopsy of the fatal cases, there may be found

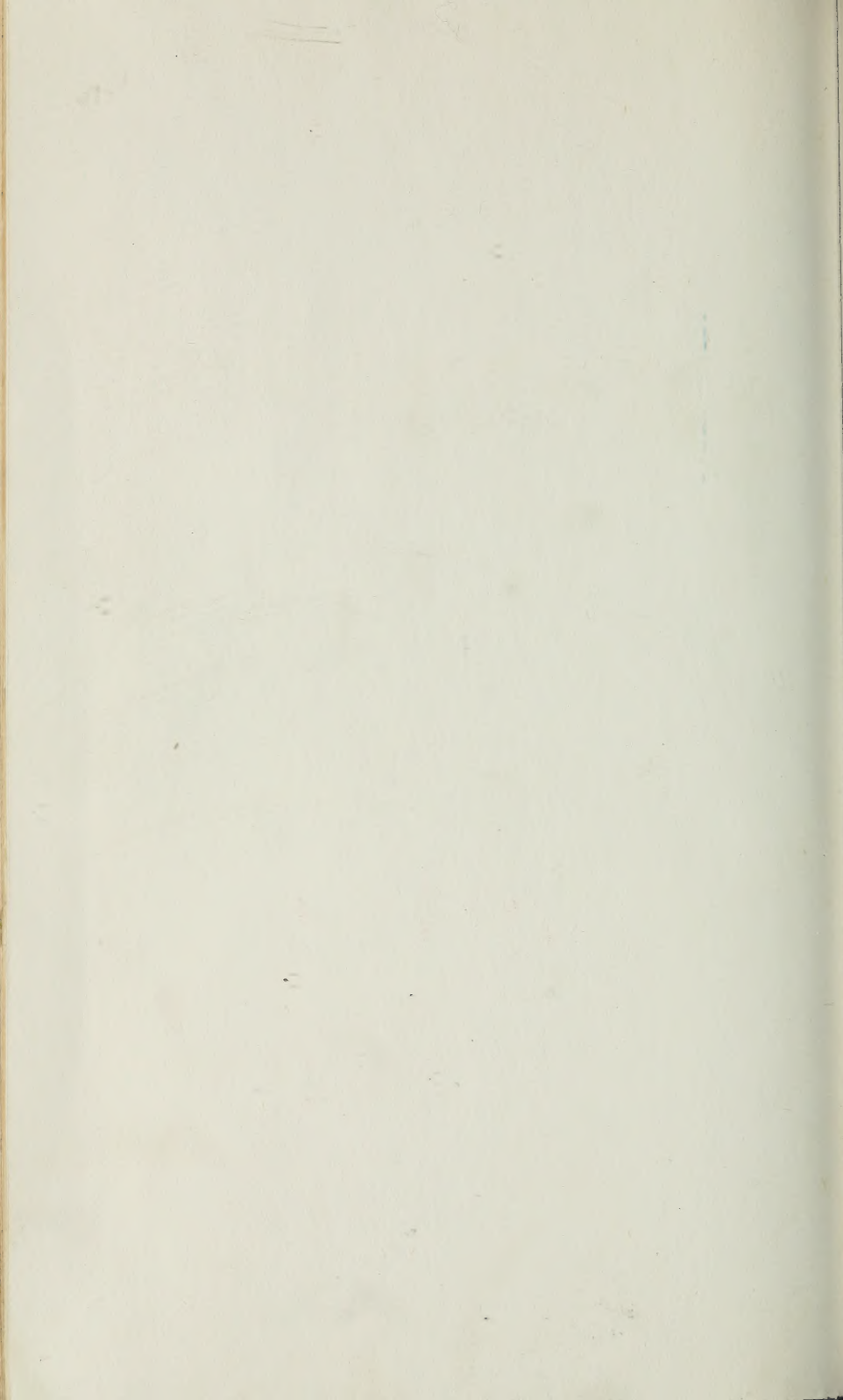
simply an injection of peritoneum and the intestines, no pus nor blood in the peritoneal cavity, great gaseous distention of the coils of intestines. Such patients can hardly be said to succumb to simple shock or to peritonitis. Gaseous distention of the intestines is the prime pathological factor—a factor which may sometimes be relieved by the anal sound, and sometimes not. Why, now, such a great quantity of gas in the intestines; and why is not this gas evacuated by the normal passage? No answer can be given to the first question. We simply know that in certain cases, even where no nourishment is introduced into the alimentary canal, a considerable quantity of gas accumulates. The answer to the second question is, that a paresis of the intestines follows on the necessary manipulation of these organs during the operation, whence frequently marked symptoms of intestinal obstruction, or symptoms suggestive of a beginning peritonitis. And yet, in these days of strict antisepsis, a post-operative peritonitis is a rarity. The point to remember is that symptoms of the nature outlined often depend purely on intestinal paresis, and such symptoms may often be speedily relieved by timely recourse to therapeutic measures. These measures consist primarily in the passage of a long rectal catheter; this failing, castor oil in small, frequently repeated doses by the mouth; this failing, the rectal douche; if this fails, croton oil; this failing, galvanism. S. in conclusion sketches the history of a case of intense meteorism, where galvanism was resorted to successfully.

E. H. G.

4. Brennecke: Total Extirpation of the Uterus through the Vagina (*Ztschrift. f. Geb. und Gyn.*, XII. 1).—The author has performed this operation eighteen times, with three deaths. He reports these cases, and describes the method of operation which he is in the habit of following. Sufficient time has not as yet elapsed to speak in regard to the result as to cure, in the fifteen cases which survived the operation. In his three fatal cases, the operation was purely attempted for the purpose of palliation. B. is a firm believer in the justifiability of the operation, and on this point, he says, only they are justified to speak who have had personal experience with the operation. He trusts that the time is not far distant when the disease in its earlier stages will be recognized, so that more cases may have the benefit of the operation. In his experience, scarcely 25% of all the cases of cancer which he sees are suitable for kolpohysterectomy, and of this percentage, scarcely one-half were in an early enough stage to be able to hope for radical cure.

E. H. G.





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